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PROGRESSIVE MEDICINE.

A SCIENTIFIC AND PRACTICAL TREATISE

ON

DISEASES OF THE DIGESTIVE ORGANS

AND THE

COMPLICATIONS ARISING THEREFROM.

BY

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"SIMILIA SIMILIBUS CURANTUR."
When the art of preserving life is in question, neglecting to learn is a crime.—HAHNEMANN.

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TO JOHN F. GRAY, M. D.,

IN TESTIMONY OF HIS ABILITY AS A LEARNED PHYSICIAN, AND HIS DEVOTION TO UNALLOYED TRUTH; AND ALSO AS AN ATTESTATION OF THE COURAGE WITH WHICH HE HAS DEFENDED LIBERAL MEDICAL PRACTICE, THIS WORK IS RESPECTFULLY DEDICATED, BY

THE AUTHOR.

New Brunswick, N. J., Jan. 1st., 1879.

PREFACE.

I HAVE labored with the most earnest purpose to gather together all evidences, practical and scientific, chemico-physiological, medical and dynamical, in order to demonstrate the rationality of the law of similarity.

Second.—I intend to bring forward some clinical cases, taken from my memorandum-book, as proofs of the success of progressive medicine.

Third.—I have adopted a systematic course of pathology and physiology as the true and only basis on which a correct and reliable diagnosis can be formed; at the same time verifying the specific curative action of medical agents upon the animal economy.

In support of my axiom, I have examined and brought forward the opinion of eminent progressive scholars of medicine, viz.: Rasori, Voght, Magendie, Prout, Watson, Pareira, Graves, Huffland, Hoffman, and many others, who are representative members of the dominant—called by us Allopathic, which, however, they reject with indignation, preferring the name Regular, or Rational—school of medicine. We shall not quarrel on account of names, but on account of principles and truth.

Fourth.—Physiology is so necessary, and so intimately connected with medicine, that I had constantly to recur to it, even if seemingly tedious; for that is the basis on which we can treat diseases successfully with the system of homœopathy.

Fifth.—I found chemistry and physical science also two great supports of my subject, as they bring forward continually proofs in favor of our school of medicine, and sustain the basis of the law of *Similia similibus curantur.*

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Sixth.—I endeavored (though I might displease some eminent extreme parties of both schools) to treat my subject upon clinical ground, sustained by rational deductions from science and from medical experience.

It is needless to remark, that he who dares to differ and predicate new discoveries or new thoughts, must be ready to meet fearlessly the indignation and contempt of those who think that there is nothing beyond what they know and teach daily.

There are surely men of both schools of medicine who are open to conviction and truth, and are ready to accept them and adopt them, even though contrary to former teaching and prejudices. To these true representatives of the medical profession I most respectfully look for an impartial verdict.

[BY PERMISSION.]

IMPORTANCE OF PHYSIOLOGICAL KNOWLEDGE.

BY M. B. LUKENS, M. D.

Cleveland, Ohio.

It is one thing to obtain a knowledge of Physiology, and quite another to make the best practical use of it.

New discoveries are continually flaunted before us. Theories are glibly explained. Yet everything seems to move on as usual. Some claim that the average duration of human life is gradually increasing. If this is true we can account for it in the diminished number of violent deaths—as in war—and in the smaller amount of poisons taken as medicines. Improvement in the treatment of disease alone is sufficient to favorably affect the average duration of life. This average at present is so far below the proper standard that a crusade should be organized against existing practices, which are considered highly civilized, but which the physiologist knows to be detrimental to life.

He who best understands machinery most readily detects the points where friction exists, and supplies the oil, knowing that by doing this he insures better work and increased durability. The human, the most complicated of machines, and infinitely the most valuable, ought to receive at least equal attention and study.

Perfection in mind and body should not be considered the wild dream of some enthusiast, whose aim is to carry out some impossible theory, for our great prototype is perfection—man, made in the image of his Creator, to be reproduced in time, and the method of its reproduction should receive conscientious investigation. This aim may be ideal—one that can not be attained in this, or may be a score of generations; yet it is elevating and ennobling—physically, mentally, and morally—to raise the standard of thought and aspiration, and hence the standard of action.

A knowledge of Physiology has this mission: It is to take its place among the influences, second to none, which are to elevate the moral condition of the world. It will not displace other good agencies, but will prove to be the strong backbone of all. Physiological knowledge, correctly directed, will diminish disease and lengthen life. Who is to enforce and direct this knowledge? By whom are the people to be inspired with a desire for instruction and learning, that their "days may be long in the land"?

Down deep in the souls of the masses will be found a willingness for instruction, and a seeking for the "elixir of life." The parent would give worlds for some power to restore his dying child to life and health, little dreaming that the cause of his anguish lies within himself or his antecedents.

For relief in all physical trouble the mind turns to the physician. The patient is satisfied with the removal of present suffering, and seldom inquires into its cause.

There is entirely too much importance given to this individual dubbed "physician." No one ought to accept the guardianship of the health of the family or individual, unless he is a practical physiologist. If he is, he will look after the sanitary conditions, and prevention will be exalted above cure. It might be safely said that all practical physiologists are physicians; but all physicians are not practical physiologists.

The present state of intelligence demands of the doctor removal of present pain; so the supply is in accordance with the demand. Every one you meet has a cure for whatever disease afflicts you; and as far as they accomplish the object of removing pain they have as much moral right to recommend and use their remedies as hundreds who have acquired a legal right, by purchasing an "M. D." as an affix to their names; for all have the same object in view, viz., to gratify the patient by removing or alleviating their pain temporarily. Few pretend to do more than this. Teachers ask no more from the graduate. In the beginning of his career he sounds his key-note—*relief*. He does not waste his energies in *preventing* disease; but when trouble overtakes his fellow-man is willing and even anxious to assist him (for a moderate fee). He is generally honest, and does his work to the best of his ability, so as to gain a reputation as an expert in his line, that he may be preferred above all competitors.

It might be asked, "Is it not good to alleviate pain?" Most assuredly. It is also good to have appliances to extinguish fire after it is under headway; but it is better to prevent the fire or make the building fire-proof. What is the building worth after the fire is put out? What is the body worth after a severe attack of disease? From ten to twenty years of life are taken away by every severe illness. A wise physician has said, "To cure a disease is to prevent it." The conscientious physician will look to this, and endeavor to get above the practice of putting drugs into the stomach that he may the better put his hand into the pocket.

When we study life, whether animal or vegetable, we find it made up of a succession of periods of growth and decay. From the depositing of the germ there is a gradually ascending series to maturity, and from thence a descending one till death. Nature has, no doubt, affixed a limit to each epoch, the extent of which can never be exceeded and is seldom attained. In applying this law to human life it is impossible to ascertain the precise length of each epoch, or the aggregate whole of existence. The greatest age ever attained by man must fall short of the years he might have reached had he lived in strict conformity to the law of nature. The famous Thomas Parr, who lived one hundred and fifty-two years, was, no doubt, prematurely cut off in consequence of a change in his usual manner of living. It was found upon post-mortem examination that his cartilages had not turned to bone, as is the case with the very aged.

All who die, whether early or late, have had the elements of a more enduring existence. The length of the descending series depends upon the length of the ascending series. The more slowly maturity is reached, or the longer the first series, correspondingly longer will be the last series; or in the ratio of one of the former to four of the latter. Our calculation here will not admit of mathematical precision, but approximates to the truth.

The length of life depends upon the length of this period of youth. During this period the material is accumulated in the superstructure, which by constant accretion in after life determines the relative power of resistance.

We know from experience, and draw our conclusions from nature, that the conditions of this period decide the state of after life. Health and longevity depend mainly upon the prolonging of the ascending series. Let physicians so deviate from their accustomed line of action as to give this feature especial attention. To promote healthy maturity will best promote longevity.

The most of those who have carried bad habits and appetites beyond the period of maturity, remain unchanged during life; and, fortunately for the race, the life of many is short. Those who are diseased, physically or morally, acquired the first taint of the malady during the maturing period, either before or after birth. All that skill can do for them is to retard progress, and palliate their sufferings, for which existing doctors have been especially educated.

Drunkards, consumptives, nervous wrecks, and those with chronic taints, can find rest only in the grave.

Some of the special means of promoting healthy growth are the food and the habits. From the beginning of life the proportion of the solid parts of the body is gaining upon the fluids. Natural death occurs when the structures become so consolidated that the fluid can not permeate the capillaries sufficiently to maintain the functions of nutrition and depuration. As the fluid and solid portions are formed mainly from the food and drink taken into the stomach, it follows that the character of the aliment has a controlling influence in determining when natural death shall take place.

When an infant makes its appearance in the world it is a soft, pulpy, juicy thing, if the mother has been properly nourished during gestation. If she has indulged to a great degree in food rich in bone-producing elements, the child enters the world through much tribulation, with its bony parts advanced toward maturity far beyond the period of its existence. The fact seems to be well established, that the food which contains a large proportion of fluid as compared with its solid matter, and a large proportion of bulk as compared with nutriment, is best adapted to sustain permanently the organism, provided it contains the requisite elements of nutrition.

All stock-growers know that animals raised for physical endurance should not be fed with concentrated food while maturing. Experience has shown that it is not the best practice, if they wish to produce a constitution capable of resisting hardship. So during the maturing period they are not allowed the same food as the matured animals which are subjected to hard work.

But how different with the human young! In the greater number of families, as soon as they are able to sit alone they are placed at the table and given the same food as the parents and grandparents. Such children, instead of having developed and fostered soft body tissue, have old people's tissue. They become old far beyond their years, both physically and mentally. They early develop a brilliancy which is very pleasing to the parents; and shortsighted and ignorant as most parents are, they yield readily to the delusion that they have the smartest children in the world, who are destined to make their mark. Such children usually do make their mark. There is a precocity of both mind and body which is unfortunate for its possessor and for society, for it makes the child a giant and the man a dwarf. It produces manifestations of maturity at twelve, and symptoms of decay at twenty. If this forced production of a man propagate his kind, the offspring will inherit an imperfect organization.

If we examine the main sources of education—the pulpit, schools, and colleges,—we find no provision made for the symmetrical development of mind and body. If we analyze and grant all they claim for their respective spheres, we will still find that the physiologist stands alone to fight for the lives of the children. The central thought of the minister of the gospel is to induce the mind to reflect upon the Creator; to remind the people that they have moral powers to improve. His specialty is the soul. Judging from his preaching, he knows nothing about the body—the dwelling-place of the soul. His business is not to save the dwelling, but to have the tenant "up and dressed," ready to depart when called for. He never tells how to keep the body in a sound and healthy condition. He never says anything about clothing, diet, dry feet, exercise, ventilation, etc. That is left for the doctors. But when the tenement is fallen and the tenant has departed, he pronounces encomiums over the wreck, and attributes this physical ruin to a wise and benevolent though inscrutable Providence, and cheers the living with the assertion that all is for the best. The pulpit, then, fails to supply the need.

We have been in the habit of looking upon the common schools and colleges of our country as par excellence for the education of the youth of the land. When we analyze their methods of work and see the effect upon the youth after passing through these educational mills, we are forced to an adverse opinion. To preserve the body while the mind is being properly trained does not enter into the modern system of fashionable education. The art of keeping up the bone, muscle, and nerve of the pupil, so as to keep pace with the brain-development, is yet to be learned and practiced. The old Grecian and Roman idea of keeping the body strong and vigorous, whatever might be the state of the mind, is now considered a relic of barbarism, and no more to be brought into our civilized refined educational processes than are their modes of physical exercise, the Olympian games, gladiatorial contests, etc.

The high-toned school of the cities and larger towns, whose machinery runs in such perfect order, is certainly "a thing of beauty," if not "a joy forever." If we look only to the perfect mental discipline, to the text-books mastered, to the grace and elegance acquired, such a school is certainly a model, but to the more practical observer, who looks forward to the stern realities of life, who appreciates good health, and believes that future usefulness depends as much upon a sound body as upon a cultivated mind, the schools appear to be conducted upon a false basis. Follow carefully a student through his whole course, and witness his graduation. It should be a source of great disappointment to both himself and his friends, that, after spending weeks, and perhaps months, in preparing an oration or an essay, he cannot be heard distinctly a score of feet from the platform. I here place great stress upon this failure, for it is indicative of physical weakness. We rarely hear the strong, sound, manly voice of the young man, which is a sure index of great physical endurance. We much more rarely hear the strong, rich, round, manly voice of the young woman, which points you to a body that is sound and healthy. When we contemplate the outgrowths of the modern and the most popular system of education, the truth is forced upon the mind that the plan is radically wrong. Education is not conducted as if the vigor, growth, and development of the mind depend upon the vigor, growth, and development of the body; but rather upon that old idea advanced by Dr. Watts—"the mind is the measure of the man." This sentiment is practically false, for it is the mind and the body which measures the man, the body standing first. It is better to be a healthy hod-carrier or laundress than a useless, broken-down graduate of some school.

A graceful blending of the two extremes is a natural and healthy condition. What is education for, if not to make the whole being better? —and is it not folly to adopt that system of culture as the one pre-eminently proper, which entirely neglects the one and gives undue attention to the other? We should not demand less scholarly but greater bodily attainments. How far the young mind may be safely stimulated is yet an open question. No rule can be laid down for all cases. Early in life some minds show wonderful power, and take instant leadership among their fellows. These may be healthy, and to check them would be cruelly ruinous. The precocious must be held in mild restraint, and their inclinations be bent and unbent by the master hand of one who is wise in forecasting the future, and who is also able to encourage wisely the dull and stupid. That the mother may be this one, wise to form, govern, encourage, and restrain, the physician should assert his mission, to instruct her mind with physiological knowledge necessary for both the physical and mental development of her offspring.

PROGRESSIVE MEDICINE.

PART I.

CHAPTER I.

MAL-ASSIMILATION, INANITION, AND DECAY.

Science has established that the source and development of organic life, vegetable and animal, depends upon the co-ordination of three forces mainly, viz., physical, chemical, and vital. This complex relation should be clearly defined in all its bearings, in order to make our views comprehensible and acceptable.

The subject is certainly of great importance to physicians, involving the great desideratum of life and its functions—disease and health.

Firstly. What is vitality, and from whence does it arise? These questions may be answered by saying that vital force arises from a process of decomposition and molecular disintegration; and this act is produced by atomic motion and molecular attraction. Those dynamic activities form new compositions and new organizations of animal or vegetable matter. During this dynamical transition and separation of atoms, an attraction of molecular particles is set up from an inherent static force, existing in an undeveloped condition within the matter itself, self-acting and with energy of its own.

Molecular force has a different origin from chemical force: it arises from a changing process of organized matter, which sets in motion the atoms that were in a state of cohesion. A molecular attraction takes place by affinity, and a new activity goes on and develops new forms; and therefore a new force springs up together with the energy of the molecular attraction and atomic motion. This is the vital force. As it increases with physical action, it also takes a superlative part in organizing matter into animal tissues.

Can we suppose that this force is independent or pre-existing? I answer in the affirmative. If we admit a static force, we must then admit that this form and power exist in the organic matter, and it only needs the momentum or energy to bring it out; such as heat, moisture, motion, electricity, etc. This force appears with the birth of a new combination. From the commotion of atomic disintegration, motion and heat are two natural results; and molecular attraction forms new compounds of organized matter. The process of decomposition, then, is unmistakably a physical law in order to form new compositions. It therefore changes the physical into chemical, the chemical into organic matter, and the organic into a higher condition, or vital force. All these changes have a perfect unity of progressive or retrogressive action. The first rising higher and higher, the latter (retrogression) descending to a lower condition, and through this process of molecular disintegration, new organizations, new formations, and a new life are reached. And rational reasoning demonstrates beyond question that action and re-action have a correlation of forces, so as to arrive at a perfect uniformity of development. There is a vegetable vital force, and an animal vital force: the former continuous and unchanging, the latter constantly forming and decaying.

Vegetative life has only the function of growth; animal life has growth, force, and repair. It is therefore conclusive that force is inherent in organic matter, waiting only the necessary energy. This energy may proceed from various sources, viz., physical, chemical, and vital, in both vegetable and animal life; hence it is evident that life springs from three forces—chemical, physical, and vital. From physical commotion there are new organic compounds formed, i. e., oxidations, carboniferous, sulphurous, or volcanic emotions, and nitrogenous. These elementary forces go on forming new compounds called minerals, or alkaloid earths; and again, when these compounds become disintegrated, a chemical force arises, and this atomic metamorphosis sets in motion a molecular affinity in favor of this or that element which may happen to predominate, i. e., oxygen, carbon, or nitrogen. Thus we perceive that new formations are constantly produced by atomic and molecular activity. If we proceed a little further, under the influence of heat, light, and electricity, the mineral atomic cohesion of any substance must separate and come asunder; and from this physical activity new results take place, and a gas or a cell is formed. And once more, this cell is joined by affinity to other elementary substances; hence a nascent combination forms a protoplasma, a new birth, a new life, viz., a vital vegetable cell is formed. One step further: with a few more elements, i. e., sulphur, phosphorus, and nitrogen, from the same source or matter arises the vital animal cell. The vegetable substances are animalized by physiological process, and changed into animal matter and tissues. Through a combination of forces a proteine compound results, and the pabulum vitæ is established. Therefore, vegetable matter must change by decomposition and disintegration, to give birth to a gas (nitrogen) rising from this process of fermentation.

The heat, the atomic motion, disintegration, molecular attraction and affinity, all combined, a vital force arises and new formations are developed, the final accomplishment of which is an animal cell.

These preliminary steps will appear tedious, but without them I am afraid our subject would be indeed incomplete. I am sure that these few pages upon general laws will strengthen our mode of proceeding to physical and vital diseases. And just at this point of the subject we must acknowledge and adopt the great physiological truth from the beginning, viz., that vital force is the life-giving power to all our organs, whether simple or complex.

Nutrition and inanition are two contrary processes. The former is re-organizing; the latter, the process of retrogression and decay. The first is a physiological law; the second, a pathological phenomenon; and yet the process of decay is a condition to animal metamorphosis and life. The process and law of reproduction would not be required if there were no waste, unless we were simply vegetative objects; and with that supposition, we could retain neither our nature nor identity. But as organic life is constituted, an equilibrium between organization and decay is a physical prerogative. If waste in the animal economy should stop, plethora would arise; but if nutrition should cease, waste would reduce the organism to a condition of retrogression and dissolution.

Unquestionably these great principles of life and decay are constantly and uninterruptedly going on, for they accomplish the great object of uniformity of action and re-action.

The subject is undeniably very interesting, inasmuch as it divulges the great and wonderful paths leading to life and vitality—from life to death, and from death to life, from the mere elementary principles of inorganic matter rising to the highest summit of creation—to an organized body; and more, and higher still, the crowning touch of our Creator, i.e., to a sentient being. Whereas when this great uniformity of animal organization ceases, it descends at once to mere matter, and loses energy and force; and from an organized condition it descends step by step to its primordial state.

Nothing is lost! Only the great physical combination of force and activity has ceased, and the elements separated into different gaseous forms. Existence as a sentient being is no more, because the receptacles of the inflowing spiritual life, which is a constant gift from its Author and Source, have separated into other forms. Notwithstanding this process of transmutation, the elementary principles still remain, and return to their original source. But this question would be pertinent: i. e., What becomes of the energy of the nascent force? As a force is intangible and immaterial, it returns whence it came, to that Infinite which no human eye or knowledge can ever fathom.

We have then reached the last phase of our subject. Our inquiries can go no further, purporting to disclose the spiritual part of our nature. It is proper we should take another direction, more in keeping with our knowledge, and let what is not in our province remain where it belongs. It is indeed a ludicrous sight, that of seeing the vain folly and attempts to reach what is and will ever be a secret, or an impossibility for man to discover, as long as he has a mere human nature.

Our inquiries have brought us to the problem of correlation of forces as indispensable to a perfect organization. And from this grand ensemble, the beautiful harmony of life arises and exists. It is obvious that the principles of life are now better understood; and we physicians particularly require this great knowledge to enter in the arena of medical and physical science;

and at the same time to form proper conceptions of the etiology of diseases in general.

Hypotheses and theories rich in scientific style can easily be produced, but I doubt whether that would be the right way to sound and practical principles—principles that could be used for the benefit of mankind.

The study of diseases must be based upon rational deduction from the knowledge of the human organism, and of its peculiar laws, which guide it in health, so as to come to a proper understanding of the various pathological complications that occur from time to time, thus changing its physiological functions.

The cases of vitiated blood, nervous and organic diseases, sthenic and asthenic, strumous and lymphatic, physical and functional, mechanical and dynamic, zymotic and contagious, infectious and malarious—these and many others, divided and subdivided by a nomenclature comprehensible only to the physician, they are even to him often perplexities of the most intricate nature. Are these changes from health to disease mere changes in the vitality alone of the economy? No; diseases generally are the results of disordered physiological laws and functions; but as long as the vital force is not seriously attacked, the recuperative power stands against the invasion of morbid influences, and with wonderful activity reproduces strength, and repairs waste, wherever it is needed. The wounds are quickly filled with healthy granulations, and changed from organized matter into living tissues. Is, then, all this done by vital force alone? Decidedly not: it is the result of all the forces together, which go to form physical organization. These are indeed the primitive and co-ordinal principles of life; and should any interference, no matter how slight in degree, with any of them take place, the most serious consequences may be looked for. And moreover, should the vital force be affected and lessened in degree, or perverted, the tissues would be lifeless, perverted, or disintegrated; and abnormal formations often thus arise.

In curable diseases vitality stands firm against the enemy, although even that may apparently diminish; but it reacts upon the other forces, and the recuperative power slowly re-establishes the disarranged equilibrium. Unquestionably, during any physical disturbance from its normal condition, the entire organism suffers more or less, but the stronger the vitality, the stronger is the reorganizing force, and dissolution is prevented.

And again, returning to the great pabulum vitæ, as the principle by which alone existence can be sustained, therefore, on this point, we must extend our inquiries, and enter at the same time on the arena of physical diseases, and review them one by one, with all their myriads of symptoms in connection with mal-assimilation and inanition, as well as the process of nature's resistance to all morbid invasions and phenomena.

Let us select the lymphatic system as the one more prone to temporary or permanent—superficial or constitutional—disarrangements, either from physical, organic, or functional causes.

From the different pathological complications in the nature of these kinds of diseases, the uniformity of the physical laws and organic functions are more or less disturbed from their normality of action, and thus complications from mal-nutrition, lymphatic atrophy, are produced.

When the lymphatic system becomes involved in any physical or functional change, the histogenetic process becomes immediately affected, and the process of nutrition and tissue-making is relatively and proportionately diminished.

This abnormity soon brings about waste, inanition, and adynæmia. And from these conditions, we are engaged to extricate the human economy, and replace it on its own equilibrium. It is clear, therefore, that our greatest effort, after understanding the functions and laws that are employed in the process of repair, is to assist, rationally and agreeably to nature, the great work of *vis-medicatrix naturæ, et vis-conservatrix naturæ.*

The vis-conservative law we study in the first principle of organic life; the second, or *vis-medicatrix*, we must find in the proper treatment of diseases, and thus return organic functions to their normal condition and activity.

The causes and shades of diseases are so variable and numerous that they often escape the attention of the sufferer, and defy frequently even the skillful physician; and thus diseases frequently remain in a state of latency, undetected and uncured. Some are physical, some organic and functional: some are inherited, others acquired. The causes are many, viz., atmospherical, diet, occupation, inordinate mode of living, inheritance, and neglect.

Whatever the cause is, there must be a corresponding loss of some of that indispensable harmony which is the only true characteristic of normal action. When the equilibrium of physical law is lost, there must be also a loss of force; hence, physical debility and general disturbance.

There are two great elements which form the important process of physical force and equilibrium, i. e., the nitrogenous and albuminous substances derived from the proper articles of diet and converted by assimilation into a proteine compound, whose constituents furnish the plastic elements of life.

These nutrients are naturally allied with a variety of elements, i. e., carbon in the nature of amyloids, sugar, and cellulose; having dextrine as the diastase, or the separating element of the different substances existing in the starch; and these are again classified by the physiologists as respiratory or calorifacient substances, partially histogenetic, but non-nitrogenous. So that starch and albumen are the elements of tissue-making: nitrogenous and saline materials are those of blood making.

By the process of molecular and invisible energy we have molecular motion; and hence caloric or absorbed heat. And part of the energy of absorbed heat is spent in pulling asunder the molecules of the body from the attractive force which binds them together; and from this physical and chemical metamorphosis we obtain alcohol by fermentation: $C\ O_2$; and by adding $H\ O_2$ (water), i. e., one more atom of oxygen, we get lower still, i. e., acetic acid. And so, conversely, we can raise vegetable matter, in the same way, into a higher organic material. So it is plainly demonstrated that we can raise or lower organized matter by the addition of certain organic constituents and elementary influences. Apparently, then, the functions of absorption, secretion, and excretion depend upon several factors, i. e., molecular motion, absorbed heat, evolution, and force. These chemico-physical forces bring about physiologico-vital function and nutrition.

The chyme and chyle are prepared by gastro-enteric juices. These functions are partially chemical and physiological; they assimilate matter to be organized into animal tissues. The process of injestion and ejestion takes place under the influence of two organic forces, centripetal and centrifugal, together with the influence of affinity, i. e., endosmosis and exosmosis. This whole physical function means nutrition and repair.

The lymphatic system bears a great influence upon the process of histogenesis, while nitrogenous substances are changed into blood. The lymph becomes denser and more viscid as it progresses towards animalization;

and finally it forms into a glandular apparatus through the whole economy. The lacteals are the colaborers with the lymphatics in the metamorphosis of chyle into blood. Each has an elective power, *sui generis;* but for that I refer to physiology. Thus far we have found that the vital force lies in all organized matter, spontaneous and independent. And furthermore, the vital force pervades all functions, organic and physical; and therefore it is possible that the majority of diseases proceed from some dynamical disorder, thus disarranging organization.

In consequence of this material disorder of functions, the sympathetic system of nerves must, in more or less degree, suffer; hence the vaso-motor branches excite plethora, or the reverse (anæmia), through two opposite results, i. e., excitability or debility. Thus the processes of absorption and secretion are changed, and soon a pathological condition takes place.

The ganglionic system controls organic functions, and influences the small ramifications called the vaso-motor, which are in reality a continuation of the nervous ganglia. This system has a superlative power over our feelings; and causes, when excited, a blush or a paleness during our emotional sensations, and these ramifications reach also the capillaries, the organs of digestion, absorption, secretion, and all the internal organic functions. It does more: it reflects upon the organs of special sense, the brain, and organs of generation. The ganglia is the source from which they receive a supply of force. These ramifications, with millions of invisible subdivisions, play an important part in the process of organization, and in the equilibrium and harmony of the human organism.

The chemico-physiological function of digestion and assimilation is often affected by its influence.

It is not surprising that this wonderful phenomenon of physical arrangement is often disordered from various and innumerable causes, i. e., objective or subjective, structural or functional, inherited or acquired. The influence of a simple eruptive disease may make a patient almost frantic with discomfort. When the skin with its glandular apparatus, its capillary convolutions, its pigment, the spongy porosity of sudorific glands, and the groups of papillæ and its neurolemma are in an abnormal condition, obviously the reflex action must carry with it a mischievous influence upon the whole economy, as well as upon the hepatic organ.

The liver being one of the principal organs involved in the nutritive process, sharing greatly in the organic metamorphosis of the animal system, and having the purification of the venous blood, extracting bile, sugar, and fats, as calorifacients, and its relation to the chylopoetic viscera, therefore the organ must naturally be prone to abnormal deviations from health in a large degree.

In biliary troubles, either in retention or suppression, the process of chylification must be impaired: its hydrocarbo fluid (bile) is a physical necessity to the paristaltic movement of the muscular fibers of the intestines. It does more: it prevents both fermentation of the excrementitious matter and abdominal flatulence. When this carboniferous element is not present, or is not excreted, carbonic acid, or sulphuretted hydrogen gas, are sure to be formed in the intestinal canal, showing the beginning of decomposition of the egesta, which, if not corrected, may produce unpleasant complications. The bile renders fæcal matter of natural consistency and easily evacuated. But when this hepatic fluid does not pass into the bowels, the fæcal matter becomes hard, lumpy, and of a clay color, showing imperfect digestion; the color often changes to different shades—black, green, brown, etc.

The quality of the food used is indicated by the smell of the fæcal matter. The nitrogenous food produces an ammoniacal sulphuretted fetid odor; the vegetable food, when undigested, is indicated by an odorless carbonic acid gas. When the bile is retained in the blood (retention), then the danger is of biliary toximia (Icterus).

Besides the objective influences causing hepatic complications and disorders, the dietetics have an immediate relation to hepatic diseases. Excessive nutrition and alcohol produce fatty degeneration and hypertrophy of the organ. I believe an excessive amount of amyloid and glucose articles of diet to be factors of amyloid degeneration of the liver, glucosuria, and fatty disintegration. Albuminuria often proceeds from malassimilation of albuminous food.

Organic diseases of the liver are dangerous, because the whole process of nutrition is by them affected, and therefore often incurable.

Malarious diseases, or excessive heat, frequently produce hepatic diseases, like atrophy and hypertrophy, from which structural changes, other diseases, i. e., heart, lungs, kidneys, and portal circulation, are likely to occur.

In view of this endless chain of physico-vital relations, certain pathological conditions are transferred from one organ to another by sympathetic and anatomical relation, thus creating functional and structural changes, and destroying the harmony of physiological action.

The influence of gastric digestion, and the process of chylification—the organic functions of the liver—are two great sources of good or evil.

The hepatic organ is also exposed to other influences from various sources, viz., nervous irritability and debility—hyperesthesia and asthenia—and even from anæmia. These are all included in the happy expression of *adynœmia.* The contrary of these asthenic conditions are, phlogosis, engorgements, stasis, acute and subacute biliary disorders, etc.; and these again may reflex back, as they frequently do, in a great measure upon the process of digestion and assimilation. In such instances the cause and effect are reversed.

Facts favor the inference that grief, anxiety, dissipation, and meteorological influences, lower the vital and physical forces; and that all devitalizing tendencies are influential in producing hepatic diseases.

In taking a *coup-d'œil* of the renal diseases, where the nitrogenous constituents pass out—the urea, lithic acid, and phosphates, sodium lithates and bile—this physical and organic metamorphosis, if in any degree it should be interfered with in its physiological functions, the effete matters would be retained and carried in the circulation; and, indeed, when such is the case, the consequences are serious. It is a well-known fact, that many cases of Bright's disease of the kidneys proceed from mal-assimilation.

And many renal diseases are the sequel of nervous disarrangements, hygienic neglect, dissipation, suppressed perspiration, checked eruptive diseases like scarlatina, measles, eczema, diphtheria, etc.; also, malarious diseases and those of a proteinaceous nature.

The old adage is as trne to-day as it ever was—*Chi va piano va sano, chi va sano va lontano*—Moderate and regular habits are conducive to health, while indulgences, dissipations, exposures, etc., are the factors of disease.

CHAPTER II.

PROFESSORS TROUSSEAU AND PEDOUX'S ANALYSIS AND CRITICISM OF THE HOMEOPATHIC MATERIA MEDICA AND THERAPEUTICS.

These truly conscientious writers have thought proper to review the different schools or systems of medicine, from the time of Hippocrates to the present day. They have criticised the French, German, English, and Italian schools, with discretion and justice. The views of Doctors Broussais, Pinel, Brettaneau, Hunter, Brown, Rasori, and Hahnemann, are fairly discussed. They have declared themselves catholic in spirit and eclectic in practice; that is to say, they believe there are many important and useful principles in all the schools of medicine. They saw the difficulty, however, of adopting such a mixture of contradictory theories without running the risk of perplexity and failure; and so they contented themselves with praising what they considered right and true, and disapproving what they thought lacked practical support; but yet they suggested or put forward nothing of their own. It is easy to criticise and pull down what others have built with great labor and difficulty, and quite another thing to raise a new and solid structure of your own. These gentlemen have shown one thing, however, and that is, that the various schools belonging to the "rational" or Allopathic system of therapeutics, differ from each other as much as they do from homeopathy; and for this reason I confine myself to the criticism they have made upon Hahnemann's theory of *Similia similibus curantur*.

They say: "Homeopathy, considered as the general idea upon which this science is based, does not certainly deserve the ridiculous therapeutic distinction which homeopathic physicians have imagined that it possessed. When Hahnemann found the therapeutic principle of *similia*, upon which he stated his argument, he only demonstrated *facts* which were the *results of experiments* of some of the most eminent physicians of his time. According to Hahnemann," say the Professors, "each medical agent must possess a particular morbid action upon the system; but any drug not possessing distinct pathological properties is not considered a medical agent deserving of our attention. Such propositions are *true*, but were expressed and demonstrated by others before Hahnemann; and they are worthy of scientific examination, being useful to the science of medicine. The morbid action of medicines can only be recognized by the application of them upon an individual in a perfect state of health." This is so eminently true that Empiricism and Rationalism are both precipitated into a labyrinth of obscurity at the appearance of these facts. Artificial diseases, produced by medical agents upon a healthy system, are recognized and carefully classified by their peculiar objective and subjective symptoms, lesions, and sympathetic complications, which each and every agent is capable of producing upon the animal economy. And when Pedoux said that we "have no orders of symptoms, and no unity," he has shown that he little understood Homeopathy proper.

Again they say: "The science of the physician is reduced to purely experimental knowledge, namely, that of the true symptoms of a certain natural disease, and those belonging to a medical agent." Homeopathy, however, does not reject the study of microscopical pathology, and its pathognomonic lesions produced by natural diseases. On the contrary, it inculcates upon the homeopathic physician the necessity that medical agents should not only give us the superficial symptoms like those of a disease, but also similar pathological, functional, and organic lesions, as well. This knowledge can only be expected to be acquired from toxicology, accidental poisoning, or from experiments made upon animals.

These learned gentlemen state the following facts: "When virus is introduced into the system, and finds there homogeneous substances, it multiplies to the infinitesimal, and infects and assimilates all substances with which it comes in contact. It goes so far that even a single atom of virus is apt to produce *similar disease*, such as vaccine matter, syphilitic poison, miasmatic effluvia, cholera, yellow fever, and, in short, all contagious diseases."

CHEMICO-PHYSIOLOGICAL ANALYSIS.

The animal and vegetable kingdoms present us with numberless forms, different from each other in aspect, construction, and function; but the origin of all is the same. All organic bodies differ from the inorganic, or mineral, in the various compositions of their components, their structure, their proneness to become isomerical, and the great tendency they have to become united in, or change mutually their preference for, one another.

The opinion of chemists is very much divided in regard to the vital forces which take part in the formation of organic bodies. Liebig compared the vital force to a *dynamic* power, which has an influence on the organic forces, like caloric. It is known that, with heat, they increase or diminish the changing affinities of organic bodies: therefore they can produce combination, or decomposition, which would not have taken place had it not been for a change of temperature. Liebig also affirms that the normal existence of organic bodies, of whatever being, are, as it were, in the midst of two contrary forces—the organic and the force of affinity. These two vital forces exist in equal parts and strength, and thus maintain the physical equilibrium of either the animal or vegetable kingdom. But when such equilibrium is disturbed by a prevailing influence of either force, life becomes more or less deranged, as this or that influence is prominent. The return of health and vitality is the harbinger of the re-established equilibrium of the two forces. Professor Liebig's experiments prove that the current of a liquid is not produced by its want of density, nor by its viscidity, nor by its endowments with the greatest force of ascent in the tubes. But the current is generally determined by the liquid which has the greatest affinity with the interposed substance [this establishes the correctness of the law of endosmosis] and "by the greatest rapidity of imbibition."—*Professor Mateucci.*

A vesicle containing one liquid being placed within another liquid of a different nature, may so act on the one by which it is surrounded as to exchange its own contents for a like quantity of the fluid with which it may be in contact. This explains the law of circulation and nutrition. (See "Physiology.")

"Chemists have tried," says Selmi, in his valuable work on Organic Chemistry, "with ingenious and artificial instruments to make mineral matter organic, in the hope of bringing out *living beings*, and with the aim of producing atoms, that may be, in either effects or nature, like those atoms which are part of the organic tissue. Their labor, so far, has been very little rewarded. Chemists have converted cyanogen, ammonium, and carbonate of hydrogen into urea, which is found abundantly in the urine, thus uniting purely inorganic substances with means *strictly chemical.*"

Any one who has the least knowledge of organic chemistry will soon see that the gains from such chemical experiments have been small. But Professor Selmi says: "It is to be hoped that they would have better success in their experiments and results, if they should undertake a research into the combination of the carbonated and nitrogenized substances with metalloids." As carbon and nitrogen are the root of all organic compositions, it is but reasonable to suppose that in both, and particularly in the first, there would exist the power of imparting an organic force into all the molecular groups.

"Artificial morbid affections are to be placed in the same list with natural diseases, and they do not differ from each other. All natural diseases can be more or less *imitated* by *morbid properties* of *medical agents*, as some of these produce, approximately, symptoms of scarlatina; others, those of apoplexy; others, those of syphilis; others, those of roseola; and others, those of dysentery. A disease produced by a medical agent possesses the power of destroying the natural disease with which it is most similar. Such medical theory would substitute an artificial disease for a natural one, but the artificial disease is only of short duration, and not malignant—on the contrary, perfectly harmless, disappearing immediately after a certain effect is produced. We must acknowledge, therefore, that phlegmasiæ, or inflammations, are cured by the application of irritants, which produce another local inflammation, thus substituting the primitive phlegmasiæ; but if it is so with local inflammation, it is nevertheless not so in general inflammation. But Hahnemann, fascinated by one truth, very soon exaggerated the importance of his discovery."
—*Trousseau and Pedoux.*

In my opinion this is a perfect contradiction, without a satisfactory reason; when acknowledging that a *natu-*

ral disease can be imitated and *destroyed* by an artificial one.

The learned Professors again say: "After knowing the course and intensity of an inflammation, if it were possible to put in contact with the inflamed tissues an irritating medicine, which would substitute the *existing irritations*, a great therapeutic result would certainly have been obtained."

Such a result is seen in the treatment of conjunctivitis with nitrate of silver, mercurial ointment, or alumina, which are *irritating substances*. These medical agents are used daily by the Allopathic physicians. They continue: "This fact once established, we must study the laws of the theory. It is clear, for example, that substances which *destroy organic tissues* with their *chemical* or *physical* action—like lime, mercury, nitric acid, arsenic, cuprum, lead, and many others—*succeed admirably* in restoring those tissues, when in a morbid condition, to a healthy state."

Doctor Pinel, although not a Homeopathic physician, merely because he lived before Hahnemann, seems to have felt the necessity of treating diseases symptomatically, without following the erroneous theory of Broussais and Rasori. Symptomology does not mean treating every symptom separately in all cases, as we have groups of symptoms; and from groups we form classes. We have groups of miasmatic symptoms, and some for specific diseases; and these groups are divided into classes according to the peculiarity of the *miasm*, the organic and functional complications, or specific disease. We have also medical agents which produce sthenic and asthenic inflammations, organic and functional derangements, etc. These groups are divided into various classes. When Professor Trousseau attempts to demonstrate the fundamental errors of Homeopathy, he must do so on some other ground than by his puerile demonstration that a medicine can produce certain pathological conditions in one organ only, and at the same time admitting that diseases like dysentery, roseola, scarlatina, syphilis, etc., can be artificially produced by medical agents.

If our learned professor admits the above as possible, he must undoubtedly admit that a great variety of pathological phenomena can be produced by each and every medical agent, varying, of course, in intensity, in lesion, in specific affinity for certain organs and complications. This is all that Homeopathy claims; and it has been so declared by all her followers, whose statements are based on practical facts.

And, I am sure, that all unprejudiced and honest inquirers will find the assertion to be true. We ask nothing more than that such men as Trousseau, with his candor and his love of science, shall analyze the claims of the system of *Similia.*

Every work on Homeopathy, and every Homeopathic practitioner, is peculiarly solicitous to demonstrate, on clinical grounds, the efficiency of the law of similarity in the treatment of all diseases, excepting mechanical and toxicological, in which mechanical, surgical, and chemical means have to be employed.

And in consideration of the honest opinion of Trousseau upon our system of cure, I have given my answer in a plain, and, I hope, in a convincing manner. I have based the whole work on clinical and analytical grounds, to the best of my ability.

All the authorities I have searched, of both schools, have strengthened my belief that the day is not far off when the law of similarity will be regarded as the true and only law of therapeutics.

The many cures of the hospital and private clinical cases, often authenticated by honest Homeopathic physicians, are unquestionable examples. All morbid influences are as invisible as they are imponderable.

Again they say: "We do not deny the *divisibility* of matter, nor the *possibility* of its division; but how are we to determine its division being effective?" I must answer, How are we to determine the rotation of the earth? Yet the world moves. I will, however, give a more conclusive answer: We must be logical, and accept results as proofs of what we cannot explain; but still, I think that we Homeopathists can ask our brethren to accept physiological and pathological results, which they have already been candid enough to admit and grant to Homeopathy. May I ask the learned professors how we are to determine the effective power of the luminous bodies of the sun? Merely, they would well answer, from their effects. How are we to determine the amount of morbid influence of miasma? From its effects. The above argument ought to be sufficient to any unprejudiced mind, that we cannot determine results and effects merely by *ponderability* of matter.

Doctors Trousseau and Pedoux also say: "We know that it is not the *quantity* of a morbid influence which determines the nature of a disease, nor its *intensity*, but the *kind* of poison which has produced the disease—just as it is not the quantity and the size of seed that determine its productiveness. So it is with a medical agent—not the quantity, but the kind."

I believe that this is sufficient to decide the question of doses, for which the Homeopathic school has been so fearfully abused. And, lastly, they say: "All Homeopathic remedies have been tried experimentally upon individuals in a normal condition: the Homeopathic physicians have had the courage, patience, and perseverance to prove the remedies upon themselves; and have, after many experiments, succeeded in constituting the *Materia Medica Pura* from which they have derived much valuable information regarding the specific properties of medical agents, of which we in France are totally ignorant. Many therapeutic agents are only superficially known to us, as also many diseases which appear under peculiar conditions. In these we are at a loss to know what therapeutic means to use."

The professors advise that in typhus, typhoid, and other miasmatic diseases, when there are present any of the above peculiar conditions, the diseases should be treated symptomatically. We are indebted to Professors Trousseau and Pedoux for their criticisms on Homeopathy. Hahnemann's doctrine has never been better explained and represented.

DISSOLVING ORGANIC MATTER.

Solid or liquid substances, when they unite without chemical composition with a liquid which takes the office of a vehicle or conveyance, do so in one of the following ways, namely, by dissolving, fluidifying, or swelling the organic substances which are used as medical agents. It is as much a solution when the substance is dissolved in the conveying liquid, in a state of perfect molecular division, as it would be by becoming gaseous or ethereal. "The solution," says Professor Selmi, "is only the gasification of the atoms in a certain space that has for vehicle a liquid, and which is completed by an absorption of caloric." Bizio says: "The dissolved substance does not lose strength in dissolving, in its special quality, neither does it change in the least; and, moreover, it resembles what we see in vaporizing bodies."

The two substances—of which one is the dissolving agent, the other the dissolved substance—in mixing, become smaller in volume, or else they have the contrary effect, and become much larger; so much so that the volume of the solution very seldom represents the quantity, or real volume, of the matter dissolved. The act of aggregation of the liquid and medical agent displaces a certain quantity of heat equal to that which is absorbed by forming a solution. It is not unnatural that atoms subdivided in such minute particles, not only attract to themselves a part of the precipitating agents, but that they become sometimes so powerful as to dissolve a base from an acid, or a neutral salt into a sub-salt. This shows what power division and subdivision can add to organic matter.

THE ACTION OF CONTACT.

Chemists have observed that, in certain cases, two substances mixed with a liquid react upon each other in such a manner as to modify the effect of one substance by the pressure of the other, without having this substance participate with its element in the modification of the first, and that it does not even show any chemical affinity. How do we explain the modification of the first substance? The modifying influence of the second substance upon the first is accomplished by the action of touch, or contact. Berselius, who was the first to call attention to this subject, says: "Besides the forces of cohesion and affinity between molecular matter, there also exists a *third force*, called catalectic, or catalysis; and from this peculiar force we can explain the action of touch or contact. Catalysis is a peculiar influence or force of a body which modifies other bodies by mere contact, without itself undergoing any change." This, in my opinion, is sufficient evidence that Dr. Algeidi was correct when he wrote a letter to Hahnemann, in which he said: "The combination of two medical agents has proved, beyond doubt, that their therapeutic action is increased without either altering or neutralizing the other, provided such agents are not incompatible."

Another proof that Homeopathy is based upon the most scientific laws of chemistry is the following: the atoms of an active body become much more effective in their influence through the velocity of their movements, and the force with which they move. In other words, atoms gain more *active strength* by *rapid motion* than by the *quantity of particles* which such bodies may contain. Here we have another conclusive and rational example: we produce coagulation of a hundred thousand parts of warm milk in the space of half an hour, with one part only of caseine, which would be less than one sixth of the active agent. It is but reasonable that we should attribute that wonderful phenomenon of coagulation to the *velocity* of the molecular movement of caseine rather than to the quantity of ingredients therein. This demonstrates, beyond doubt, how much rapid motion of molecular matter can accomplish. Liquids, by the means of adherence, absorb and condense many ethereal fluids. The power of condensation is exhausted to such a degree as to become a wonderful phenomenon. They come to the conclusion, from the observation of Professor Hassenfratz, that the volume of a solution does not represent the real volume of the dissolving agent, nor of the substance dissolved—having either dilatation or contraction. But it is to be supposed, according to the elementary laws, that caloric and motion will always dilate an ingredient which is undergoing the process of subdivision.

EFFECT OF FRICTION UPON MEDICAL AGENTS.

The first action of friction is to increase the volume of organic bodies and produce heat, and thus disintegrate solids. Solids and liquids both go through the process of vaporization when acted upon by heat. There is a great number of substances which become decomposed and useless, if exposed to heat and light. It has been observed that light produces evaporization of some organic bodies—for example, camphor; and it is well known that it discolors many substances containing a coloring matter, by exciting the oxygen of the atmosphere to act upon them, or to become mixed with them, or else to neutralize the hydrogen contained by them. It is well known that oxygen sometimes becomes attached to the atoms, like a metal; and in that case, such atoms become oxydized. At other times, oxygen takes off the carbon and the hydrogen; and it can do this without mixing itself with the substances which it has decarbonized and dis-hydrogenized. This shows the error of keeping medical agents in the light and heat. In Homeopathy, we have a rule that our medicines should be kept in a dark and cold room.

THE DEVELOPMENT OF ORGANIC MATTER.

We can see, at the first view, that the developing force, *par excellence*, of the organic attitude of the principal elements is hydrogen. Hydrogen produces volatility of the organic compounds: the more hydrogen, the more development, and the more volatility. The quantity of water does not diminish the organization of the organic bodies. Water is a simple developing agent, and is neither an organizing nor disorganizing agent. The importance of water, in organic chemistry, is almost equal to that of carbon. Water—in dissolving, subdissolving, emulsionizing, and gathering all the organic bodies—favors the reactions, modifies the quality, and prepares them to accomplish the functions, to which the vital force stimulates them. Without water, we would have neither blood, lymph, nor many other ingredients belonging to both the animal and vegetable kingdoms. Finally, there would be neither organization nor life. The subdivision of the elements in favor of organic atoms brings great changes, and these are produced by the formation of new substances contained in the water. This confirms the hypothesis that water is a developing agent, if not an organizing one.

ELECTRIC IRRITABILITY OF THE NERVES.

1. Electricity is the only irritant which can excite at one time sensation, and at another time contraction, according to the direction in which it transverses a nerve. 2. The electric current alone, in passing transversely across a nerve, produces no phenomena due to the excitability of the nerve. 3. The electric current has no effect on the nerves; that is, it neither causes contraction nor sensation, when its action on the nerve is prolonged. 4. The electric current alone modifies the excitability of a nerve, and even rapidly destroys it, when the current circulates in a certain direction; and can preserve or augment the excitability, when passing in the opposite direction. 5. Of all the irritating agents, the electric current is the only one which possesses the power of reviving the excitability of the nerves, for a time, when they have become very much enfeebled in respect to other stimulants.

ANALOGY BETWEEN ELECTRICITY AND NERVOUS FORCE.

These differences between the action which electricity exercises on the nerves, and the action of other irritants, evidently show that the first is more simple than the last. Hence arises the analogy between the nervous force and the electric current, which the earliest observers of galvanism faintly perceived. But ought we, from this analogy, to conclude that the nervous force is merely an electric current? Let us be cautious in assuming such an inference—which is too often adopted as one of the best demonstrated experimental truths. It was important to search for the presence of an electric current in the nerve of a living animal. The most conscientious and best-established conclusion, is this:

In the present state of science, and with the means of experimenting we now possess, no sign of an electric current is found in the nerves of human beings or of the lower animals. What is the relation existing between nervous force and electricity? There exists between electricity and nervous force an analogy, which, if it does not possess the *same* degree of evidence, is, however, of the same kind as those analogies which we know exist between caloric, light, and electricity. The phenomena which we have observed in electrical fishes prove that a link of the *same nature* unites the nervous force and electricity. Electricity is not nervous force; nor is nervous force or caloric electricity. There is a beautiful analogy of the two forces written by Professor Mateucci. The conclusion of this interesting argument, that "two forces may be alike, acting upon one another with advantage, and yet not the *same*," is a very important matter, and worthy of attentive study by all Homeopathic students. It is well to know it, and to know it scientifically. Professor Mateucci goes on to show how electricity can excite nervous force. The excitability of the nerves can also be awakened, and sensation of muscular movements determined, by other agents as well as by electricity; for example, by heat, and by mechanical and chemical action. In all these actions we can only see various causes of *molecular movement*, etc.; and we cannot say that chemical and mechanical force and caloric are either nervous force or electricity. But they are *analogous* in their actions and results.

ON THE SECRETIONS.

By secretions, we mean the different fluids which are formed in the organs at the expense of the blood. These fluids have different actions in the animal economy. Some are destined to certain functions, as the saliva, bile, pancreatic juice, etc. Others are thrown out, like perspiration, urine, milk, etc., because they could not remain in the economy without producing much derangement. The secreted liquids have a variable composition. Some are, as it were, evaporated on the surface of the membranes whence they come; such are the mucus, perspiration, and the serum. Others are the saliva and the pancreatic juice: these latter are accumulated in particular ducts, which pour them out when needed. Finally, some others are immediately placed, after being secreted, in particular reservoirs; such as the bile, the urine, and spermatic fluid. All these secretions are not formed by the secreting organs, but by the blood itself. This proof shows that there is no such thing as secreting membranes; but that they only perform the mechanical function of eliminating such fluids from the blood; and these once thrown out of the general circulation are of no more use to the nutrition of the system, and are then received into the membranes for other purposes.

This idea is not agreed upon by all physiologists. They have taken out the kidneys of a dog, so as to prevent the secretion of urine and the excretion through the usual channel. After a few days the dog died, and they found that the blood contained urea; but it has been impossible to ascertain such phenomena in a case of natural death, as undoubtedly the kidneys constantly separate the urea from the blood. First, the separation of matter from the blood is performed by filtration; and second, by cell-action, etc. Secretion by filtration is purely a physical act, which is closely demonstrated in the case of the lachrymal glands. This mechanical function is observed also in the serous, and particularly in the synovial membranes, and *bursæ mucosæ*. As long as the material secreted pre-exists in the blood, it is needless to refer secretions to any other principle than to the simple one of transudation and filtration. This law is well defined in the structure of the liver; that is to say, four different vessels are engaged in the liver—the portal vein, hepatic arteries, biliary duct, and hepatic veins. The first two are the afferent; the second two, the efferent. The portal vein brings the portal or venous blood. The arteries supply that organ with the necessary blood for nutrition, that is, with arterial blood. The ducts carry off the biliary secretions which have been separated from the blood. The hepatic veins take charge of the residue, and carry it back into the circulation and into the vena-cava. Similar processes take place throughout the glandular system.

SECRETION OF THE SALIVARY GLANDS.

There are, it is well known, three pairs of salivary glands; and although secreting similiar fluids, yet they are not the same. The parotid fluid differs from the maxillary in density; and is less alkaline, and contains less lime. It is so viscid and glutinous that it may be drawn into threads; but the sublingual is much like the parotid fluid. Besides the special juices, the mucous membranes pour forth a liquid of a thick, tenacious character, which is alkaline in its reaction. The mucus of the buccal mixed with the submaxillary secretions, accomplishes a transudation of starch into sugar with facility, which it will not do when mixed with the parotid fluid. The saliva of the mouth is a compound of the secretions of the various salivary glands. The preponderating ingredients in the composition of the saliva are sulphates, chloride of sodium, and potassium. The difference between the saliva of man and that of herbivorous animals is only that the salivary-calculus of man contains a greater quantity of phosphates.

ON CHYME.

Chyme is the result of digested food. In consistency, color, and chemical re-action, chyme varies with the varture of food, in its chemical constitution and its quantity, but under ordinary circumstances presents an acid reaction, for it is to be remembered that the diurnal supply of hydro-chloric acid is about one-fifth of an ounce. Pepsin is a very important agent in the accomplishment of digestion. The following is an example: hydrochloric acid has been kept in contact with albumen, without any perceptible action, at an ordinary temperature; but if the same acid, at the same degree of temperature, be joined with an addition of pepsin, a solution takes place with rapidity. This is sufficient to explain the influence of pepsin upon the digestion; that is to say, by replacing heat. The acid alone cannot form a solution without an increase of temperature varying from 150 to 200 degrees. The lactic acid, by the aid of pepsin, reduces the food to a uniform pulpy mass, called chyme. Of all the acids, these alone are capable of forming digestive fluids.

GASTRIC JUICE.

Gastric juice is secreted by the internal coat of the stomach, and has the power of dissolving the ingredients which enter into that organ and of changing them into chyle. Physiologists and chemists, after many experiments upon dogs, etc., have come to the conclusion that the acidity of the juice is due to an acid identical with the lactic and ascetic acids. Dr. Prout has demonstrated that the free acid is hydrochloric acid. This acid of the gastric juice and the soda of the bile are derived from common salt, which is present in the food. We find that there is a constant recurrent periodicity of digestion from the mouth and the entire digestive track. As to the particular usefulness of this juice upon the ingredients of nutrition, Professor Spallazani believes it to be the dissolving agent, without which no perfect digestion would take place, and no molecular transformation of chyme into chyle could be accomplished. Thus we must regard the gastric juice as one of the great principles of digestion, and an indispensable substance in the formation of chyle from the milky emulsion of chyme.

PANCREATIC JUICE.

That fluid which is called pancreatic juice is secreted by the pancreas, and poured into the duodenum together with the bile and gastric juice. The secretion of this gland is similar in composition to that of the salivary glands, and its structure is also similar to the salivary glands; and hence it is usually regarded as one of the group. The juice itself is analogous to saliva, being viscid and alkaline in its reaction. Its specific gravity is 1.008. It acts upon *starch* even more energetically than saliva, transforming it into sugar and lactic acid; and upon fats, by forming them into emulsion, so that they are readily absorbed. This has been proved by submitting fatty substances to the juice at the temperature of 100°. However, the action of the pancreatic juice seems to be limited to the upper half of the intestines.

ENTERIC JUICE.

This juice has received but very little attention from the medical profession in general; and, in my opinion, it is one of the most complicated, as well as one of the most useful, in its character and function. It is secreted by Brunner's glands, the structure of which has a certain analogy to the salivary group. These glands are found in the upper part of the small intestines: they are as small as a hemp-seed, and consist of globules with ducts communicating with a common outlet. Their secretion possesses a more energetic power in forming fatty emulsion when mixed with bile and pancreatic juice than the pancreatic juice alone. In the opinion of Dr. Schmidt, the intestinal juice, which they describe as being invariably alkaline, exerts as powerful an action on flesh, albumen, and other proteine bodies, as that which occurs in the stomach itself. The follicles of Lieberkühnn are straight, narrow, cereal depressions of mucous membranes, found all over the intestines. They are analogous in their structure to the mucous follicles of the stomach, which secrete pepsin; and it may be presumed that they possess similar functions. Their mouths open to the intestines, to which they communicate their influence.

There is another very important class of glands, or paches. These are circular spots of a whitish color; and, *without* any excretory ducts opening into the intestines, they secrete some kind of fluid necessary to the intestinal digestion. By some it is denied that these bodies are in any way connected with intestinal digestion; but it is too absurd to suppose that these little glands have any other function than that of a fluid, which, like the mucus of the mouth, possesses some ingredient necessary for the accomplishment of digestion.

SYNOVIAL FLUID.

This fluid is furnished by a particular membrane which forms the synovial capsules of the articulations, and is secreted for the purpose of facilitating the friction of articular surfaces. This fluid has been analyzed, and found to be semi-transparent, greenish, viscid, and filamentous, like the white of an egg; greasy to the touch, and saline in taste. Left to itself it assumes a gelatinous consistency. It becomes fluidified after decomposing a fibrinous substance. The synovial fluid of man contains a great quantity of albumen, animal matter, alcohol, a fatty substance, some soda, chloride of sodium and potassium, and phosphate and carbonate of lime. The knowledge of the different ingredients composing this fluid is of great importance to the physician, as they have considerable influence upon the diseases of the articulation.

LYMPH.

The lymph is a serous fluid, very abundant in the human economy, and is the result of the process of decomposition of the blood; or in other words, it is a separated constituent of the blood. It is found in the white corpuscles, or mixed with chyle in the thoracic duct.

The lymph, like all the other fluids, is secreted by the capillaries; and, in its composition, is like the blood itself, except in the red cells—the fibrine, albumen, and saline constituents being apparently the same. The lymph collects all the albuminous matter thrown out by transudation from the blood, as unnecessary or innutritious ingredients. These albuminous ingredients, being allied to the lymph, form a glandular substance, which is called the lymphatics. This structure is the counterpart of the mesenteric or lacteal glands. These lymphatics anastomose with each other, in various ways, so as to form plexuses and convolutions. The action of the lymph is to gather the albuminous substances thrown out by the blood-vessels, which otherwise would go to waste. Receiving all these, they transmit them through their windings in the glands, and then submit them to the action of innumerable cells; and, as in the egg of a bird, albumen disappears and muscular tissue of a bird arises, so here the serous portion disappears and fibrine arises in its place. This is carried forward into the circulation, to repair the great waste of muscular tissue. The skin is abundantly supplied with these glands, or lymphatics.

FLUIDS WHOSE REACTION IS ACID.

The skin contains two kinds of glands: one for the removal of water, the other for the removal of oily substances. Dr. Anselmino analyzed the vapors, or steam, of the body, and found the following features, namely, the fluid itself is perfectly clear, and has no smell; but when analyzed it was found to be composed of water and carbonic acid.

ANALYSIS OF PERSPIRATION.

The skin permits water and saline and fatty substances to escape from it in quantities which differ on different parts of the human body. The experience of Dr. Berzelius gives us the following substances as composing the human perspiration: water, acetic and lactic acids, chloride of sodium, potassium, phosphates, and oxide of iron. The acetic acid is the fluid which acts upon colored clothing.

Whatever physical circumstances promote surface evaporation correspondingly promote the action of the skin. Moreover, this membrane acts similarly with the kidneys; and this not only in regard to the water, but also in regard to the solid matter, a certain amount of which is thrown off in the space of twenty-four hours. Besides water secreted by the sudoriparous glands, carbonic acid and nitrogen escape. Their proportion is variable and seems to depend upon the nature of the food—carbonic acid increases with vegetable food, and nitrogen with animal food. Professor Draper says: "I believe that the sudoriparous glands are the counterpart of the malpighian bodies, and the sebiparous glands are the counterpart of the uriniferous tubes." Besides exercising the functions of exhalation and perspiration, they also exert a great absorbent action. Liquids, as well as gases, find entrance through the skin. If oxygen, carbonic acid, and nitrogen are put in contact with the skin, absorption rapidly ensues.

MILK AND ITS COMPOSITION.

The proportion of water which exists in milk is about nine-tenths of the whole amount. The function of the water is to remove from the system substances which are not of a vaporous or gaseous form, and which cannot escape through the lungs and regulate the temperature by evaporation, and to impart fluidity to the blood. These are conditions as necessary to the infant as to the adult; and it should be remembered that two-thirds of the weight of the body is water.

The next most important ingredient of milk is caseine, which is the tissue-making, histogenetic, or nutritive element. It is to be converted into the muscular, gelatinous, and other soft tissues of the infant. What is meant by proteine bodies is caseine, one of the group designated by Professor Draper as the neutral nitrogenized bodies, of which albumen, fibrine, and globuline are the most prominent substances, and which form the so-called proteine bodies. Of the whole group, albumen is the most important element; but it will be seen in physiology that the process of digestion converts the other substances into it. Caseine, albumen, and fibrine all present nearly the same constitution, but differ from each other in their physical properties.

CONSTITUTION OF MILK.

Goat's milk	**Caseine,**	**80**	**Sugar,**	**40**	**Butter,**	**40.**
Cow's milk	**“**	**60**	**“**	**28**	**“**	**40.**
Woman's milk	**“**	**32**	**“**	**36**	**“**	**29.**

This table shows how often the changing of milk interferes with the process of nutrition. Goat's milk, in my opinion, is the best substitute for human milk for children.

INFLUENCE OF AGE ON THE COMPOSITION OF MILK.

The variations in the composition of milk from its normal standard depend upon age and bodily health. Young females, from fifteen to twenty, yield a milk more rich in solids than that which is given at thirty-five or forty years. (See "Physiolgy.") This is a very important subject to the physician, as he is often consulted by his patients as to his opinion in regard to milk most suitable for children who cannot nurse. The opinion of the physician, in this case, ought to be based upon his thorough knowledge of the composition of milk and its changes.

CHAPTER III.

PREDISPOSING CAUSES TO MENTAL DISEASES.

It is unquestionably accepted as a natural result that all great efforts, either physical, organic, vital, or mental, are more or less destructive to organic structure and functions. Such efforts are always followed by reaction, loss of equilibrium, and harmony of action. Mental efforts are not exempt from the general law, which produces reaction, debility, irritability, spasmodic or tetanic disorders, or anæsthesia, partial and general paralysis; in consequence of which disorders of circulation and organic functions must unavoidably and frequently occur.

On the contrary, if the organization, or any of the vital functions of the organic economy, should be interfered with, either by want of proper nutrition (anæmia), or hypernutrition (plethora), the reflex influences upon the encephalon are those of a pathological nature, thus disarranging the physical phenomenon of life and its modus operandi.

Sleep brings rest and restores the organic economy to its normal condition. Labor means action and motion, and if exhaustive, irritability, insomnia, and loss of appetite generally follows.

The brain has various and complex duties to perform, viz.: sensation, creative-power, and volition, and supplies physical and vital forces, besides the general functions of thought, which must be controlled by the effort of the great nerve centre.

Mal-nutrition, continued wasting diseases, infectious, malarious, zymotic, sthenic, asthenic, and many other diseases, may involve the nervous centre to such an extent as to produce mental aberration, hallucinations, exhaustion, irritability, monomania, and finally insanity. These are proximate and predisposing causes.

The exciting causes may be thus mentioned: Grief, loss of property, loss of friends and relatives, fright, great excitement, blighted affections, poison, injuries, dissipation, excess in venery, anæmia, and inanition. The remote and physical causes are inheritance, scrofula, renal diseases, epilepsy, chorea, retrocession of skin diseases, hepatic structural disease, etc.

It is necessary that we should return to our special subject of inquiry, i. e., mal-assimilation and inanition, as amongst the factors of mental derangement. No doubt that mal-nutrition is often a cause of derangement of the organism; hence inanition, hæmatic change, and asthenia; these would soon produce a dissolution of the organizing process of all the physical and vital functions. And if we accept this as a true axiom, we can thus well accept the theory of anæmia of the brain.

A want of proper general nutrition must exercise a depressing influence upon neuro-plasty and mental force. Starvation and plethora reach, though through opposite causes, the same unavoidable end, i. e., mental disease.

When the mental functions are once incapacitated, their normal, physical, and vital condition is seldom recovered. The brain has greater and more complex work to perform than any other organ, and has no temporary substitute to act in its place. Act it must, sick or well, as the energies of all the physical and organic functions depend upon it.

Those who are more prone or predisposed to mental metamorphosis are literary and professional men generally; and just here, they may occupy our attention principally, because they form a large number of our daily patients, suffering from various nervous affections.

Though their occupations necessarily differ or vary in character, those who perform the arduous mental labor of the world are the metaphysicians, mathematicians, engineers, philosophers, historians, physicians, lawyers, musicians, actors, statesmen, clergy, etc.

This class of men, whose mental energies and resources are put to the heaviest tasks, too often neglect their physical necessities, to a great and dangerous extent. In such cases, naturally, the vital force must suffer from such deleterious neglect and overwork, thus implanting diseases, organic or functional, on some parts of the nervous system. These abnormalities may fall upon the motory or sensory system, or the triple system of nerves, i. e., sympathetic, vaso-motor, and splanchic. Disintegration of the cells, embolism, thrombosis often occur. The world owes much and has received much and untold benefits from this class of men; they have raised the human family above the drudgery of mere vegetative creatures; they have ennobled us and keep us moving forward in the proper sphere which God has intended us to fill; and they thus enable us to ascend to that higher plane of intelligence and culture which the Infinite has designed that we should reach. This great and glorious work must wear fearfully upon the great centre, the brain; and so the nervous forces, centripetal and centrifugal, must, *pari passu*, be renovated and constantly nourished with the proper elements of nutrition.

Should it be surprising that the organs of repair are at times affected by these great mental efforts? It is obvious that the mental phenomenon would, in such cases, receive a doubly devitalizing and depressing influence, i. e., one from an over-use of mental faculties, and another from a want of proper nutrition and repair. Inasmuch as all vital processes depend upon a state of perfect physical equilibrium, it certainly is very evident that the organs of alimentation must perform their duty and be in a perfect physiological condition.

Even were nutrition alone rendered feeble and insufficient, the whole economy (brain included) must suffer and finally become totally disabled.

The morbid conditions that naturally result from either or both disorders, i. e., brain and digestive organs, or, *vice-versa*, digestive organs and brain, are obviously unlimited, according to idiosyncrasies and diathesis. Some may suffer only from mere hyperæsthesia, hyperæmia, etc., others from exhaustion and inanition.

A large number of persons suffering principally from enfeebled digestion and imperfect chylification, constipation, and torpidity of the liver, etc., are rendered incapable of severe constant mental occupations; these are often the products of the sedentary life of students. Likewise renal troubles may supervene; the skin and its functions often become altered and throw back the excrementitious materials which ought to have been eliminated. The secretions are changed, and hence the lymphatics become surcharged and engorged, and thus caco-plastic elements and neophites are formed (hetero-plastic lymphoma or neuro-hetero-plastic). All persons that pass their time in seclusion are necessarily deprived of the needy and healthful exercise —fresh air and motion—excluding those elements that are so important to perfect organic metamorphosis, without which, sooner or later, life becomes seriously affected.

And, to make matters worse, these people have supplemented artificial substances for natural and life-giving elements, in the form of stimulants: as coffee, tea, liquor, high condiments, and in this manner live on an artificial stimulus whose reaction is sure to take place in debility and exhaustion. Now, therefore, since we have seen the practical folly of substituting artificial agents, we must endeavor to correct these abuses and supply a better and more rational proceeding.

HYGIENE.

Firstly. We must remove the patient from a sedentary life, and give him exercise in the open air, plain, nourishing food, light, heat, electricity, and regular hours for eating and for rest, also salt-water baths, cheerful company and sufficient work to prevent another evil—the despondency that follows idleness.

DIETETICS.

Secondly. The dietetics must be prescribed according to the idiosyncrasies of the individual. If he is emaciated and anæmic, he should have animal food and nitrogenous vegetables, containing those elements which the patient requires. The diet should be at times amylaceous, mixed with succulent substances. If he requires food for the nervous system, give him fish, eggs, wild game, and poultry.

THERAPEUTICS.

Thirdly. The therapeutical agents must also be chosen according to the constitution and special requirements. In these cases we find adynamia the superlative symptom and then a neuro-phlogosis may be found in some organs, but generally there is anæmia accompanied by asthenia. Then our remedies must be of a vital nature, reorganizing and reinvigorating—ferrum phosph. et per oxidum, ferrum sulphuricum, ferrum iodidi, etc. And, again, our blood remedies are natrum and kali phosphoricum or sulphuricum, magnesia phosph., oxid. of manganum, natrum chloricum.

In cases of nervous debility our remedies are phosphorus, cinchona, quinia, zincum oxidum, nux vom., strychia ignatia, pulsatilla bryonia, actea racem., arnica mont, etc.

And in those cases where there are complications of the digestive organs, so called difficulty of the chylopoietic viscera, podophyllum, mercurius sol. or alkalizatum, aloes, rhei et natrum, Kissengen water, sulphur, arsenicum alb or alkalizatum (the liq. potassæ arsenicalis), bismuth, and pepsine. These remedies must be changed according to the many circumstances, i. e., age, sex, occupation, idiosyncrasies, and diathesis, but they are sufficient for all common purposes; and are in a measure the best remedies.

The object is that of logically invigorating and supplying the system with those elements needed, and, at the same time, disintegrating the carbonic acid through the lungs, skin, or excretions.

In all complications we must make a strong distinction between organic, sympathetic, and functional diseases. The differential diagnosis is of the utmost importance, as it will be obvious to every practitioner that objective and subjective symptoms form the train of diagnostic signs, which united give shade, and form the true type of the disease in question. Causes and structural pathology are indispensable diagnostics, as evidences of an undoubted nature concerning the true physically morbid condition existing.

For illustration, in diseases of the liver one of two disorders may be presented under very similar signs and etiological condition, i. e., suppression and retention of bile. The former is an organic derangement; the latter is a functional one. The same is the case with the kidneys; the evacuation of urine may be impeded, should we therefore jump at the conclusion that we have a mere case of retention, without any further inquiry?

The evidences are in favor of the following conclusion: intellectual occupations favor diseases of the nervous and digestive systems, from which those employed in mechanical labor are entirely exempt. In the former instance sedentary life prevents proper oxidation and elimination of carbonic acid; while in the latter it favors oxidation, organization, and eliminations of the excrementitious material. Nutriment cannot well be assimilated and organized unless done through the physical and physiological functions of elementary and mechanical forces, i. e., motion, heat, air, light, and electricity. And undoubtedly the proteinaceous compound cannot become plastic matter when the above organizing physical principles are wanting.

And besides these elementary principles of life, others equally as important are the elements of nutrition, which, notwithstanding their possessing all the constituents required, the art of preparing them is surely of great import, for it develops their nutritive constituents, while otherwise it might destroy them so as to become useless as elements of alimentation and repair.

Cooking is an art that may prove either salutary or injurious, and the health and happiness of millions of people depend to a great measure upon the knowledge of this accomplishment.

It is a well-known fact that a great deal can be done by a good nurse and cook. The former is to know how to apply what the latter has studied how to prepare. A judicious diet may be often the means of restoration of the physical forces. The same nutriment cannot be used always for even the same patient; it must accord with the nature of the disease and the requirements of the system. Even during the same sickness the diet must be constantly and intelligently varied.

The various lights and shades of nervous affections change so frequently, and present themselves in so many various forms, that the most skillful of diagnosticians is often puzzled to recognize the old enemy in its new garb.

Empiricism and mere routine practice should be deprecated as dangerous and unworthy of the honest and scientific physician. Nothing is more imperatively demanded than conscience and honesty in the physician. There are no forced boundaries, no forbidden path in the acquirement of his knowledge and to his honest convictions; no school or teaching should debar him from the privilege of inquiry and study of other theories besides his own. Knowledge has no line of demarcation; it is a sea where the most experienced navigator may always find something to learn.

Surely, notwithstanding a perfect liberty of action and conviction, care should be taken that vagaries, mysticism, and follies should not misplace the well-known facts and rules adopted by sound-minded men, and tested with the crucible of experience and practice. The elements of nutrition, then, must be particularly selected so as to accord with the principles of life and repair.

When oxidation and decomposition are impeded, or partially interfered with, the process of combustion or fermentation (heat, assimilation, and nutrition) becomes difficult and inefficient. It is then necessary to measure the physiological requirements of our patient.

Knowing one's habit, diet, idiosyncrasies, and constitution, we would know, or should know, what to prescribe and what to forbid.

It is a general rule, that cases of nervous ailment require very light nourishing food; and at times very strong and in small quantities.

Light food may be enumerated as follows: fish, eggs, nitrogenous and vegetable food, wine, cream, shell-fish, broth, etc.

Strong food—beef juice, soup of vegetable and shell-fish, roast beef, game, eggs with rum and sugar and water, ale with yolk of an egg, coffee and cream, cocoa and well done oatmeal, peas, beans, and lentils.

The amylaceous, glucose, and succulent elements of food would not supply the requirements of those diseases belonging to asthenia, inanition, or adynæmia.

And it is proven that nitrogenous and carbonaceous are the most suitable nutriment for an exhausted or emaciated constitution. Changes are necessary, and oftentimes in favor of a starchy vegetable diet; but this comes in as a substitute for producing caloric and fat. Sago, rice, potatoes, turnips, corn meal, tomatoes, barley, tapioca and fruits—these must be cooked so as to destroy the elements of fermentation, breaking every cell and preventing the descending tendency of these vegetables into carbonic acid.

Add coffee, tea, cocoa, wines, and we have all the substances that help nutrition and physical metamorphosis.

These beverages have been instituted for the purpose of nutrition, by preventing tissue waste. Nothing adds more to an intellectual worker than a cup of coffee and cream. It not only supplies a stimulus, but it does more: it supplies food by its nitrogenous constituents, and prevents a quick waste of vital force.

Tea, on the contrary, proves to be a respiratory fluid; increasing respiration by acting upon the vagi, and pneumogastric nerve, thus eliminating carbonic acid in greater quantity. Tea is a stimulant which possesses, in very small quantity, nitrogen (thein), and helps the system to burn out carboniferous materials in the form of carbonic acid. Therefore the indications of both remedies are, the former to increase nutrition, the latter to increase ejestion; one to support nature's debility, the other to enable her to eliminate the poisonous accumulations (secretory ingredients) and perform that elimination.

In conclusion, dietetic experiments have demonstrated that a smaller quantity of food is required when these fluids are taken than when they are not. In old and infirm people, where the desire for tea is so strong, the waste and decay of the system is thus lessened by its use. Coffee would be still better.

Professor Liebig says: "With addition to oxygen and water, they can yield tourine, which is the nitrogenized constituent of bile. In their complexity it is very probable that they act as a part of food to the exciting and vivifying of strong common soup, and that coffeine and theobromine are closely related in their composition to nervous elements, and therefore they are suited for the repair and renovation of the exhausted brain."

And here we stumble into the great question of temperance.

Are spirituous liquors beverages and a physical necessity? As to their being beverages, in the usual acceptation of that term, they certainly are not; they are agents by which certain beneficial results can be produced when there is a physical necessity, i. e., in sickness. As elements of nutrition and oxidation, there are none superior when the animal economy is tardy in her functions of reorganization and repair. We are informed from experiments made by good authorities that plastic formation must go through a certain gradual metamorphosis, and this is obtained by a process of fermentation, decomposition, and disintegration, so as to again become organized into a higher state of formation. Thus starch, sugar, and dextrine, the constituents of vegetable matter, will by fermentation become plastic formations, making the so-called protoplasma.

And by a continuous process, with an addition of oxygen, alcohol is formed; or we may push the vegetable disintegration of elements still further, into acetic acid, and from that into yeast or mold. Thus the vivifying principle of the vegetable matter is, par excellence, the diastase or malt, and so are albuminous constituents, which exist in more or less degree in all vegetable and starchy products, but which require heat and moisture, together with molecular motion to bring about atomic force and organization.

The ferment, then, is the result of a condition, the presence of the mold, the principle in which the force exists, the latent force of the yeast or mold.

There is, therefore, the principle of life in the matter itself; and this is the true vital force.

There is another question: Is, then, fermentation necessary to organization? Yes, to a certain extent. All vegetable nutriments contain a diastase or germinating principle that converts their starch into gum and sugar, and this is done through the developing process of heat and moisture, hence the result is fermentation.

The scales of progression can be well traced, i. e., the change from the elementary or physical into the mineral, from the mineral into the vegetable, and from the vegetable into the animal. The process of development is physical; the result is a vital force.

Alcohol is the offspring of vegetable decomposition, produced by a physical process of disintegration, of caloric, and moisture with hydrogen.

The purpose for which these stimulating agencies are used is to invigorate the activity of the vaso-motor nerves, and thus circulation; these agents are to be used with care, and only when nature becomes enfeebled either by sickness, age, or exposure, and exhaustive labor.

They are useful in adynæmia, in dyspepsia, and in scrofula, as nutritive and vivifying agents; they are truly restorative of force, physico-vital.

The excess or abuse of these stimulants produce morbid conditions of the stomach, liver, kidneys, and brain; and there are many medical substances which would produce structural diseases of the organs, in much less quantity and time than liquors, and yet they are considered inert. Even some articles of diet, were they so much indulged in, would produce some morbid effects upon the system.

And, therefore, we learn that these agents add force to assimilation and nutrition, and so they are necessary to the physician, but only as organizers of an enfeebled recuperative power of nature.

They exhilarate the imagination by propelling more blood to the brain, and thus give the brain more nutrition.

They break up inactivity of the nervous matter, and they quicken action and reaction. The poor sot's brain has often been found to contain a minimum of alcohol, and even the lungs also.

The reactive influence of this agent is that of depression, emaciation, anæmia, and liquefaction of the fibrinous blood.

There are medical agents which in large doses would produce similar effects to that of liquor in excessive doses, i. e., cannabis, opium, belladonna, hyoscyamus, ammonia, and stramonia. And for nervous irritability we have quinine, nux vom., strychnia, phosphorus, ignatia, and many others.

In virtue of the untold beneficial effects of following the laws of nature, and thus preserving health, I cannot pass without recommending the profession to study more faithfully the advantages that we may derive from employing elementary agencies as the physical foundation of our structure, which may prove the most logical and truest remedy when the organization is in an abnormal condition.

Medical science is not entirely speculative; it has a good deal of the practical, and is attained by unmistakable knowledge of the phenomena of life and its progression.

When we adopt strychnia, quinia, phosphorus, capsicum, etc., we use them in cases of irritability or agitation of the cerebro-spinal system. And these remedies are really capable of producing the same or similar results if given in a normal condition of the system.

ARTISANS, MECHANICS, AND LABORERS.

These three classes are only made distinct by reason of the different kind of work they perform, and the arduous labor required of them.

Artisans are the better class. They require taste, skill, intelligence, discrimination, and ingenuity; they must have considerable natural abilities; they must have knowledge of the selection of becoming colors, and blending of shades in all those works of woolen, silks, and tapestry generally.

Their mental faculties are called upon for a higher sphere of action than in the case of mere mechanics.

The second class are the carpenters, carriage-makers, cabinet-makers, tailors, shoemakers, blacksmiths, etc.

The third class consists of those that perform only manual labor on streets, common roads, and farms; also, as servants, hostlers, millers, drivers, etc.

The manufactories employ generally a great many girls and boys of a tender age; and besides working all day at their trades, they go to night schools for instruction. They have no play, no recreation, which is so necessary to young children. This deprivation of the natural elements of growth, i. e., air, play, and exercise, puts, as it were, a check upon physical development

They consequently grow up physically and intellectually feeble, and thus they reach the age of puberty in a deteriorated physical and mental condition.

They are deprived of that physical exercise, from which their secluded lives compel them to abstain, and which lays the foundation of many diseases of which they only too soon become the victims.

Their physical development and force are unfavorably affected in early life; their nutrition and growth are thus gradually suffering from the neglect of the physiological law; and their intelligence is stultified by the want of the proper elements of vegetative force and neglected instruction.

The men and women fare no better; only, they, having obtained their growth, have an etiological reason for less proneness to physical disorganization.

The dusty rooms of the weavers; the heated and confined air; the moisture from steam; the poisonous exhalations from materials, paints, and the air infected by many breathing lungs confined in a small space; the attitudes of sitting, bending, or stooping over looms and tables or sewing machines for hours; these and a variety of other causes go far to produce those myriads of invalids and cripples that fill up our hospitals, dispensaries, and other asylums of charity.

The tobacco and cotton factories, where constant dust is floating, and pervading the whole atmosphere, invariably affect the lungs, stomach, skin, and, at times, the sight. Soap and leather factories emanate effete gases which produce a deterioration of the animal economy; they cause asthenic and anæmic diseases.

The match and india-rubber factories are also sources of disorganization of the vital forces through the poisonous and infected atmosphere, which is continuously impregnated with mephitic gases. Is it not to be considered a very important question—the happiness, health, and life of thousands of these poor creatures? Should not the medical profession, as the recognized faculty, whose dictum is accepted upon all hygienic subjects, present these evils for consideration, and, if possible, abolition, and suggest the means by which fresh and pure air could be therein introduced? The process of ventilation, heating, and cleanliness should be the first important object of every humanitarian and sanitarian.

It is also a question of economy. By taking the proper cautions against these putrid smells, mephitic gases, and devitalizing animal exhalations, thousands of victims would be saved, and the sanitary bills would fall to one half of what they are now.

The diseases which originate from such sources are generally of a malignant and infectious nature. They cause diphtheria, dysentery, hepatic disease, cholera, typhoid fevers, consumption, adenitis, scrofula, eruptive diseases, carbuncles, suppression of the menses, apepsia, renal diseases, abscesses, and, finally, disarrangement of all the organic functions. Dissolution or perversion of the great phenomena of life must sooner or later take place in the majority of cases; hence cacoplastic formations, lymphatic diseases, mal-assimilation, cancer, atrophy, and finally and conclusively, adynæmia.

And, furthermore, the surroundings of these establishments are anything but salubrious: Low grounds with stagnant water; water-closets near, and unclean; animals—like cows, pigs, and horses—and their dunghills, are generally in the immediate neighborhood. The people who live near these factories build shanties, and are poor, unclean, and ignorant; they throw the slops before their dwellings, and the water they drink is full of animalculi.

It is, indeed, from these unhealthy localities that effete poisons arise and infect the rest of the town or city.

There are large numbers of poor girls whose emaciated countenances, weak frames, dejected looks, are living specimens of this barbarous and inexcusable neglect.

Their diet is oftentimes faulty and unhealthy, both in quality and the way the food is prepared. At this day the question of sustenance has become a serious one, and has called to it the attention of all the Christian and civilized governments of the world.

The growth of population and the requirements of an enlightened age have brought to civilization an increase of many necessities, which in the primitive condition of man were not even known.

Naturally, man in his savage state has few cares and less necessities of life, and none of those appendages that weigh so heavily upon many of us, which are called social duties and requirements.

Political economy has become one of the most useful branches of our system of government: it is indeed the basis of national prosperity and greatness.

To ensure remunerative labor to the lower classes, so that they may get sufficient means for subsistence, and thus keeping them from idleness and debasing vices, is truly a herculean and noble task, worthy of the most patient and generous of governments. A neglect of this high duty on the part of those on whom divulges the affairs of a nation brings about disorganizations, conspiracies, revolutions, and misery over the land.

An honest simplicity of life and living is conducive to health and happiness, whereas the corrupting and debilitating indulgence of extravagance and vice carries with it poverty, sorrow, and desolation.

Undoubtedly a simple, good, healthful food ensures physical and mental force, and renders us more capable of enduring the vicissitudes of life. Poor diet, cold, dampness, and mephitic gases, with insufficient clothing and unhealthy habitations, will produce suffering, disease, and premature decay to a frightful extent. Good clothing is an imperative necessity, and must be suitable to the climate in which we live, both in texture and style.

This subject calls our attention particularly to the style of dress which fashion imposes upon our women.

Indeed, fashion, although commendable as a source of employment, proves often a very foolish and injurious institution, often inconsistent with common sense, ugly, uncomfortable, and extravagant.

What is more pernicious than a tight-waisted and low-necked dress, and with short sleeves? What is more absurd and injurious than thin and high-heeled boots?

And, again, the weight of most of this paraphernalia is confined to the waist instead of the shoulders. Is it any wonder that there are so many diseases of the uterus? The trouble lies in consulting beauty and taste, instead of comfort and health. From tight-lacing and heavy clothing are derived derangement of digestion, hepatic engorgements, painful menstruations, sick headaches, and nervous irritability in the form of insomnia, apepsia, and hysteria.

Physicians, as the proper guardians of the public health, should not neglect to call the attention of parents to these great abuses and wants of the first principles of health.

HYGIENE AND DIET.

Having pointed out a few valuable causes which produce much suffering and sickness, we have now reached the preliminaries of demonstrating the remedy.

Unquestionably, at the present day the majority of people understand the evil consequences of an impure atmosphere.

The paludal countries are constantly giving us evidences of their poisonous effluvia; the intensity of an Indian temperature proves the deleterious effect of a tropical climate; the humid atmosphere of England has shown its devitalizing influence by the absorption of too much animal heat, favoring scrofula, rheumatism, and consumption.

The exhalations of the rice-fields of the Carolinas and Italy, and the valley of the Danube, are pestilential in their nature, and fever and zymotic diseases of all kinds are disseminated at the cost of thousands of lives.

Acknowledging at once that the rice-fields are necessities to the human family, as likewise are the manufactories, yet, with all this, there is no reason why we should not endeavor to diminish the evils proceeding from human necessities.

Rooms crowded with children, or men and women, should be forbidden.

Schoolhouses should be built in accordance with the most approved laws of hygiene, and so should factories and all institutions where a large assembly of people is expected to gather.

By exercising energy, patience, and will, the authorities of our cities would soon yield to reasonable plans for improving the health of all.

The millionaire, whose sole ambition is to leave his name as a perennial memory to the world, can do so only by doing the greatest amount of good. He is the only true benefactor, who has in his power to relieve suffering and raise the lowly.

Much evil is due to negligence, but much is also due to poverty and ignorance; and, worse than all, many of our incorporated institutions, whose sole object is to get the largest percentage upon their capital, building badly constructed dwellings and large places of business, in order to save a few thousands, by their avariciousness are sending hundreds of victims to a premature grave.

The appalling epidemics of yellow fever, cholera, small-pox, diphtheria, dysentery, typhoid fevers, etc., would become reduced in frequency and virulence.

Was it economy to the South to keep the fermenting elements of yellow fever?

Is it economy to the East to have the yearly plague? Can it be, in the name of simple common sense, that our municipal governments could be so short-sighted and inhuman as to see nothing and think nothing of the science of hygiene?

In answer, I regret to say, that much fault lies in the perfect indifference and inactivity of our physicians. Would they only take the pains, through the press, to demonstrate the danger and wickedness of such want of the proper means to ensure health they would greatly save suffering, and expense too; for sickness is more costly than keeping a Board of Health.

Again, that people must be clad according to climates and seasons of the year is an unquestionable human necessity, and at the same time a great and serious expense.

The covering of the human body comfortably, tastefully, and cheaply is one of the greatest causes of happiness which we may candidly thank civilization and its industries for.

There is much or little in our modern discoveries, accordingly as we understand their proper use. Great is the waste of food and of clothing, and our people are truly improvident and wasteful. This is the important part of economy, of usefulness, and of comfort. Many people cannot be comfortable, for the simple reason that they do not know how to be comfortable. Others suffer from wants, even with the material in their houses, just because they do not know how to make things meet for the desired purposes.

I advocate that all our public schools, high or low, should have a cookery and a sewing department, so that every young woman leaving the school should go with at least the most important knowledge of how to keep house and prepare her food, and how clothing should be made in order to save waste and to make it suitable for the purpose intended. Leave the piano, the Greek, and the Latin to those whose fortunes are amply sufficient to let them proceed with these intellectual pursuits, but teach poor girls the practical things of life.

The feeble and nervous should always dress warmly. The plethoric and lymphatic do well with less clothing.

And when these rules are not observed by either, both will surely suffer. The fat and strong would probably suffer from too much clothing, as the weak and delicate would from too little.

One more thing is absolutely necessary to be not only mentioned, but insisted upon by all physicians, i. e., cleanliness of dress and of person. Nothing is more conducive to health than simple, well-cooked food and good bathing.

To insure a perfect immunity from loathsome and epidemic diseases, the great cardinal conditions should be observed: 1. Good, healthful food; 2. Convenient and sufficient clothing; 3. Cleanliness; 4. Healthful dwellings, with proper ventilation and heating apparatuses.

We cannot verify the old adage, "a sound mind in a sound body," without following the first rules of health.

Many home-spun articles are far superior in durability and warmth to those made by manufactories. Fashion and fineries should be more disregarded than they are by our working people; for good, well-fitting dresses are not always *a la mode*, nor is it desirable that they should be so.

The shoes should be heavy and strong; rejecting the miserable imitation of "the Yankee make," as they are made of poor material and still poorer shape.

One pair of English manufactured shoes will last as long as three pair of the "Yankee make"; therefore the heavy home-made shoe is the cheapest and the best.

The love of extravagance in luxuries generally is an American failing; this causes often domestic dissensions and unhappiness.

The phrase is true, if not comely: In our prosperity we often forget the rainy days that are to come. We are apt to think of the present alone, and let the future take care of itself.

The enfeebling evidences of extravagance and fast living are visible in the delicate constitutions of the present generation. Children often suffer for the follies of their forefathers.

Work and plenty go well together; as idleness and miserable poverty are unavoidably linked to one another.

Remunerative wages is only what is due to honest, good labor; just as exorbitant demands for work is an evil which does not enrich the poor, but makes them extravagant and vicious.

Small remuneration with continuous and secured employment is far more desirable than spasmodic high prices, which soon terminate either in bankruptcy to the employer or discharge of the employed. Poverty is not an unnatural thing with us all; it has often its reward in sobriety, industry, and happiness. Wealth leads too often to extravagance, frivolities, loss of health and morals, with nothing but unhappiness as the offspring of it all.

Food must be fresh, simple, and well cooked. Healthful diet is not only a source of enjoyment, but of nutrition and physical force. It is a great gift, that of knowing how to live. All nations err to some extent as to the proper articles of diet.

The English and Germans are apt to adopt too heavy a diet and to eat too frequently.

The Latin races, Italians, French, Spanish, etc., live on lighter diet than the Saxon race. This is done in consideration of warmer climates, and hence more salubrious. I believe they use too much vegetable and succulent articles and an insufficiency of nitrogenous animal food.

Their meats are mostly boiled, while were they broiled they would be more nutritious. But of the many errors committed by national fancies and customs in the mode of living, I believe the Americans excel them all.

The principal error in the American diet is the indispensable pastry in all shapes and kinds. Again, there is the abuse of using hot breads, and sweetened fruits called jellies, and upon this the children feast. Coffee or tea *ad libitum* is taken with the heaviest meat diet, rendering digestion more difficult and laborious.

The fried meats and vegetables are always to be found on every American artisan, mechanic, or laborer's table —an indigestible and non-nutritious way of cooking. And it is not surprising that gastric troubles arise, and that the chylification is imperfect, bringing on mal-nutrition—emaciation, hepatic complications, nervous disorders, portal congestion, hemorrhoids, constipation, disturbance of the menstrual period, melancholy, headaches, and dyspepsia in a chronic and complicated kind is the result.

Gastralgia, enteralgia, cardialgia, and neuralgia are oftentimes the products of a poorly selected diet; these prepare the way to more serious constitutional derangements. We have seen before how simply the phenomenon of organization springs from fermentation and a few agencies to favor its development.

It would, perhaps, suggest that were we to study better the processes of nature, we would still more understand its simplicity and its requirements.

The fundamental law is constantly before us—good simple food, plainly and well prepared: this is all.

These are conclusions which I have arrived at through experience and practical observations. Affluence and rich, luxurious living, late hours, and indolence, on the one hand, and poverty, want of cleanliness, thirst, badly prepared food, etc., on the other, will, sooner or later, cause physical and physiological disarrangements leading to final disorganization.

Invariably any departure from what is purely necessary to the equilibrium of the animal economy causes disorder and disintegration. Therefore, the remedy which we can logically recommend is frugality, work, good clothing, good air, and good food.

DISEASES ARISING FROM IMPERFECT NUTRITION.

It is well known to the profession generally that there are many diseases whose origin proceeds from mal-assimilation and innutrition, and these occupy a large space in the medical literature, whether they present themselves directly or not, organically or functionally, by inheritance or acquirement.

The diseases of the digestive organs should always be looked upon with even more apprehension and care than they really are. Such ailments are often dismissed with slight notice and little thought.

It is true that oftentimes these very much abused organs are only temporarily and superficially affected; yet these ailments, slight as they often seem, bring about, in the course of time, a feebleness and a proneness to disorders—these slight deviations from prudence in diet are too often neglected and made light of, when, after a few recurrences, the indisposition changes to a recurring disease. The complications, the symptoms, and the degrees of these anormalities are so numerous that it would be an impossibility to enumerate them in any short or uniform classification.

Some people by sympathy and reflex action suffer with sick headaches, some with a complication of the biliary organ, others with eruptions, coughs, and nervous diseases of all kinds and shades.

They are often the origin of many physical and vital complaints, and if allowed to go on, they disorganize the animal economy, thus gradually preparing the way to some insidious, perverted physical or organic metamorphosis.

Some of the principal and incipient symptoms of imperfect nutrition are the following:

The complexion changes from a clear and healthful color into a pale yellowish or greenish hue; the activity and vivacity of the person changes into a lassitude, low spirits, sadness, or irritability; strength changes into weakness, sleep into insomnia. It affects the mind and intellectual faculties. A sensible person is often changed into a peevish, notional, and irrational individual, easily offended and fond of fault-finding.

Suspicion arises where perfect confidence existed, and morbid desire for things which were never thought of before, and if at all, were looked upon as absurdities.

Women are prone to hysteria and sterility. Hypochondria generally affects the male. They suffer with palpitation, gastralgia, and enteralgia. The appetite is at times increased and at times destroyed.

They complain of sour, bitter taste, eructations, of flatulency, malaise, and constipation. Leucorrhea, irregular menses, hemorrhoids, dysmenorrhea, ovaralgia in women. Oftentimes, the ganglionic and splanchnic system of nerves, and even the vaso-motor, are so affected that the correlation of functions is partially suppressed. The process of injestion and ejestion becomes slow and sluggish, from engorgement of the excernent system. The great centre of nerves, the focus of vital force, soon becomes sympathetically disturbed, circulation becomes likewise impaired, and the blood loses its fibrinous element, becoming liquid by the increase of serum. Complications of the lymphatics naturally follow.

The gastro enteric juices become weak and changed in their constituents. The salivary glands and the follicles of the stomach may become morbidly affected, thus changing the process of digestion.

These disorders change according to diathesis and idiosyncrasies of sex, age, temperament, occupation, climate, and food. We also find cases of digestive troubles caused by miasmatic effluvia, or brought about by animal or vegetable mephitic gases.

CLINICAL CASE I.

Physical Examination.—On auscultation I found his lungs perfectly sound. The heart's functions were irregular, although its structure was free from disease.

I found the liver, on percussion and palpation, to be tender; no enlargement was apparent either to the touch or eye. Kidneys were healthy, although the urine had a specific gravity of 1030 (phosphates).

Semiology.—A young man, twenty-seven years old, of a nervous, bilious temperament. Complained of some trouble, which he could not well describe. He had been a good liver. He slept badly and was restless and uncomfortable; he had frightful dreams, awakening confused and not knowing where he was. He arose in the morning weak and tired. His energy of mind and agility of body had left him. He had no desire for either physical or mental work. He complained of having pain in the cerebrum, with a feeling of pressure and heaviness. He had lost all desire for pleasure or mirth. He avoided society, and even friends. The table had lost its charms for him, he had no desire for food. His mouth was parched and slimy and raised mucus from the stomach.

He used stimulants, under the impression that they would produce a change. His physician suggested tonics, which meant stimulants in a different form. After a few months of this kind of uncertainty, and his bitters (as he called his medicine) not having answered the purpose, he considered himself in a rather critical condition.

To be sure, the treatment at the very first sight was unmistakably improper, and the diagnosis incorrect.

His skin was dry and impervious to a great degree; no wonder that the urine was charged with phosphate of ammonia, and its specific gravity 1030. The excrementitious matter was charged with carbonic gas.

The stomach was not disturbed with any ferment of acidity, but the intestinal canal was. Air accumulated at the ilio-cæcal region, ascending upward through the colon. This is the ilio-cæcal dyspepsia of Dr. Chambers, he having localized the disease on the principle of morbid anatomy.

He was very despondent and neglected his business. He suffered with cold feet and hands, although hot flushes would sometimes take the place of chilliness. His pulse was weak, and regular but frequent. Eyes dull, movements slow, tongue coated, white at the root and reddish on the edges, and breath offensive.

His abdomen was inflated with gas, memory uncertain, and unable to collect his thoughts. This great variety of symptoms has nothing decided pathognomonic, and would be tiresome and uninteresting to the empiricist; but yet they are indicative of constitutional trouble somewhere in the digestive organs, and it is the duty of the physician to find the organ, or the functional lesion of the chylopoietic viscera.

He was an inveterate pipe smoker, and a tea and coffee drinker.

He chewed tobacco when he did not smoke. Ate hot bread and pastry and retired late. Danced immoderately and drank cold drinks when in full perspiration, thus changing the temperature of the stomach and intestines perhaps ten to twenty degrees in a few minutes. What could or would we think of throwing ice-water on a hot boiler ? But the young man thought himself evidently stronger than red-hot iron. This is a very suggestive discovery, which leads us on to the stomach as the organ greatly abused.

Etiology.—Looking over the principal objective and subjective symptoms, we find, 1. Indulgence in the good things of the table; 2. Use of cold drinks while his whole system was at a high temperature, causing decided mischief; 3. Late hours and late eating; 4. Smoking an old pipe and chewing tobacco.

These were the true and evident causes which brought upon him disarrangement of the digestive functions, besides a natural predisposition to nervo-bilious trouble.

There were no real organic pathognomonic symptoms characterizing the disease, but, as it has been said already, there were unmistakable signs of derangement of the digestive organs.

It was a case of inertia, caused by overstimulation, by indulgence and carelessness in food and drink, with the prostrating influence of tobacco. This condition of things deprived the system of much vitality; and the absorbents became sluggish and inactive and the juices weak and wanting in the proper elements of nutrition. The results were mal-assimilation, mal-nutrition, and inanition.

Although the symptoms were not as pronounced as those of dyspepsia, the indications were strongly that way. I believe it was a case which could be called, with sufficient good ground, enteric dyspepsia.

General Remarks.—Here, in these very cases, we must proceed cautiously and patiently, for nothing would be gained by heroic treatment. These are generally disorders of a chronic nature, trying the patience of both patient and physician. But how could it be otherwise? These symptoms have been growing gradually upon the system, and, therefore, have become implanted there, and their returning to a normal condition requires the same slow process of re-invigoration. And it is clear, that we must base our mode of procedure upon the principles of organizing and vitalizing .the proteine compounds.

This patient not only disregarded many of the important requisites necessary to insure health and comfort, but deliberately took opportunities of disarranging the chemico-physiological process of digestion, and thus brought about a physico-vital disarrangement of the whole system.

It was not a case where regulated diet alone was sufficient to bring about a change. It certainly required immediate advice on the most important laws guiding the primary principles of organization, namely, 1. Rest of the digestive organs; and, 2. A strictly regulated diet on sound physiological regulations. There was evidently a loss of correlative, digestive functions.

This prolonged loss of organic force could not be regained, except by a patient, continuous, and logical treatment, based on physiological principles, aided by medical advice. This gastric disorder had brought about a general systemic trouble, which required constitutional treatment.

Through the neglect of proper medical treatment, and the process of over-stimulation, much difficulty was put in the way of a speedy recovery.

The "regular doctor" had evidently put fuel to the fire; he stimulated with quinia, strychia, and liquor; he irritated by acrid bitter agents, i. e., cathartics, etc. From this mode of irrational treatment, debility and inanition was slowly disorganizing every physiological function in the economy.

This case presented a feebleness or asthenia from over-stimulation and abuse in diet; and nothing but injury could be expected from stimulants and cathartics.

It is but practical common sense that we should reject an agency which will create mischief and increase the disease: it is pure logic that would suggest other plans than those which had been used, more in conformity with the science of physiology.

Medical Treatment.—Having considered the case as one of *asthenia*, accompanied by adynæmia from mal-assimilation and nutrition, we are, therefore, *primâ facie*, to accept it as one of nervous exhaustion, or want of physico-vital force; and from this standpoint we must proceed by invigorating the physical phenomena of nutrition and life. The mal-assimilation of the nutritive elements was due to the disordered condition of the organism produced by hyper-nutrition and the rest of the evils already pointed out. Were, therefore, medicaments alone sufficient to add physico-vital force? The constituents of the proteinaceous compounds are not changed or increased by drugs. The histogenetic process is not increased or returned to its normal condition by medicaments. Nutrition and life are not considered to be found in chemicals or drugs.

But diseases can be diminished, and even cured, by proper medication, provided it is assisted by the vitalizing principles of nutrition; but those principles are not obtained by food alone, but also by the employment of those physical principles of which the animal economy is in a great measure the recipient, and from which many constituents are continually received and others organized. And with these preliminaries we surely can enter the arena of medical science with a fair chance of doing justice to our responsibilities.

In this case I used remedies which are well known as organizers of physical force, i. e., nitro-hydrochloric acid, phosphate of soda, phosphate of magnesia, kali sulphatis, nux vomica, pulsatilla, bryonia alba, arsenicum, aloes, ferrum peroxidum, or phosphatis pepsine, lycopodium, and capsicum an. These remedies were given at different times, changing from the mineral to the vegetable medical agents. The strength was generally that of 3-10, although I have given the iron in larger doses, i. e., five to fifteen drops four times a day.

Hygiene and Diet.—The physical principles are—motion, air, light, heat, bathing (water), electricity, early hours, and plenty of oxygen.

The diet was composed mostly of nitrogenous elements. Light soup, mutton, beef, chicken, and fish. These ingredients should be so cooked as to retain their nutritious constituents.

The vegetables were rice, peas, beans, barley, sago, and tapioca—rejecting potatoes, pastry, coffee, tea, rich and carbonaceous food generally. He could not derive benefit from stimulating liquids, for he had already exhausted their utility.

The liquids were cream, milk, cocoa, pure water, and, at times, some good claret at dinner. These articles were to be taken in small quantities at first, increasing as the power of chylification increased. In all these complicated cases the diathesis and idiosyncrasies of the patient must be taken into consideration. Where there are lymphatic engorgements and tumefactions we have to use specific agents for that system, e. g., belladonna aurum, mercurius, iodidi-iodine, barita-muriatica, kali bromidi et chloricum, mineral baths, etc.

Symptomology alone would not go far enough, but we must select those remedies that, besides having a similarity of symptoms, have also similar pathogenetic effects and lesions. To this suggestion I know many physicians may object on theoretical grounds, but not on practical experience. We, symptomologically speaking, might treat headache, pain in the stomach and back, irritability, apepsia, and insomnia without looking deeper into the cause of these symptoms; then we would be no better than empirics ourselves. Pathology, etiology, and semiology form the grand field of inquiry, without which no sound diagnosis, and still less the prognosis of the case can be satisfactorily made out. The success of the treatment of all diseases, in my opinion, depends upon the thorough knowledge of these factors.

CLINICAL CASE II.

Physical Examination.—A young woman of four and twenty years of age, of a nervo-lymphatic temperament and excitable idiosyncrasies. Lungs sound; heart's action irregular, but organically sound; kidneys and liver normal.

Semiology.—She came to me some four years ago. She complained of general malaise and distress, feebleness, constipation, headache, flatulency; sometimes looseness of the bowels, mental depression, painful menstruation, desire to lie down, slept badly, urine greatly increased in quantity, with an unnatural whiteness and specific gravity only 1000-10; hemorrhoids, pain in the back, flushes of heat and cold alternating, cough, and rumbling in the intestines.

She was nervous and weak; the slightest noise or domestic disarrangement annoyed her, and she wept easily; she feared that some malignant disease was growing upon her; she awoke in the morning unrested and chilly; she looked pale and haggard, anxious and excited; appetite normal, but felt depressed after eating, and a heavy weight distressed her stomach; flatulency and eructations relieved her.

The colicky pains were confined to the small intestines, with sympathetic nausea and vomiting; unpleasant burning at the stomach with expectoration of mucous fluid; mouth and tongue white and slimy; cardiac irregularity, due to nervous weakness, approaching asthenia; hepatic torpidity, leucorrhœa, yet the uterus was perfectly healthy; dyspnea was, at times, very distressing to her; yet her lungs were sound and the heart was only functionally irregular. These organic troubles, as far as I could fathom them, were simply the result of reflex influences.

Her mother confessed that her daughter was fond of candies, pies, coffee and tea, and had been allowed to indulge in them ever since she was a child.

She was a very diligent student when she went to school, and perhaps had her brain packed with all sorts of scientific branches, weakening her intellect, probably, more than doing her any practical good.

She studied late at night, and often had a good lunch of cake and pie before going to bed, in consequence of which she awoke in the morning complaining of a restless night and exhaustion.

The mental faculties were so depressed that I feared mental aberration, in consequence of nervous irritation and anæmia.

The sympathetic system was also much involved and hysterical signs were prominent.

Etiology.—1. On the diagnosis of the case I found mucous irritability of the stomach and its follicles, and aphthous ulceration. In such a physical disorganization it is easy to imagine an altered gastric juice and peptones. The hypersecretion of the mucous membrane of the organ produced inanition and nervous weakness, and from such complications arose malassimilation and a perverted condition of the vital force (adynæmia).

2. The muscular force and the chemico-physiological functions were in an abnormal state. The animal economy was put out of its normal functions to such an extent that emaciation, inanition, and anæmia were the results.

3. The mucosity undoubtedly extended to the intestines, and the process of injestion and ejestion was retarded.

This pathological condition of the digestive organs threatened to form cacoplastic neophytes, and to become enteric consumption. The process of histogenesis being in a precarious condition, the lymphatic vessels and glands were enfeebled and sympathetically affected.

The defective proteine organization must, by necessity, in time, have brought about plastic changes—hence tumors, cancers, ulcerations, and hetero lymphoma or atrophia lymphatica, and consumption scrofulosa would have been the result, and might have taken place in the mesenteric glands. The drain of a large amount of secretion must weaken the whole process of repair, as well as imprudence in eating—pork, pies, and hot bread.

Hygiene.—Motion by walking every day, or driving, any action producing heat, together with the air and light, rendered assimilation more probable. In addition to the above, I ordered sheets for packing her whole body, so as to equalize circulation and diminish the hyperæmia of the abdominal regions. Early hours for retiring and rising, although I required a frequent recumbent position, so as to rest the internal organs. Gentle occupation, so as to relieve the mind from dwelling upon the disease, and cheerful company for an hour or two at a time, for anything would have tired her beyond description if not used with great moderation.

Dietetics.—The necessity to understand well the properties that will build up the physical force and functions is so imperative that I cannot dwell upon it too much.

It now devolves upon a physician to secure the best means to re-establish the recuperative power of nature in the best and most rational manner.

As I have said before, these cases have their origin from the very fountain of life, and from that very basis only can we expect to cure them.

I have dwelt at length upon the necessity of knowing exactly what are the elements wanted and what are the functions impaired, for it is only then that we can suggest a treatment which might be expected to be at all beneficial. Oxygen, motion, heat, bathing, rubbing, and proper dietetics may be the necessary means to recuperate the physical force. One patient needs rest, another activity. One needs oxygen, another heat and carbon. One nitrogenized food, another albuminous or amylaceous. One needs acids, another alkaline. One metalloids, another mineral metalloids. In this lies the whole process of physical laws and medical success.

At breakfast, cocoa with cream, or the yolk of an egg beaten in white sugar, with the addition of water and a little wine. In this she had dry buscuit—nothing more.

At dinner, beef-tea, or clam-broth, with bread and no butter. In the morning a small quantity of boiled hominy with cream, and at noon rice or hominy. Supper—clam-broth, plain rice-pudding without eggs in it, sago without eggs, and black tea with milk in it.

This diet was increased in quantity and somewhat varied; but I abolished potatoes, all pastry, and all sorts of stews and fried things. At times I allowed half a cup of strong coffee, with cream, as an invigorator and nutritious element.

Medical Treatment.—Dr. Chambers says: "Practitioners of the Homeopathic law fail sadly in the treatment of enteric diseases, because the remedies do not act promptly and are not given intelligently, but only symptomatically, taking no notice of the pathological condition of the system; hence a long and unsuccessful treatment." And he unbecomingly boasts of having cured a myriad of cases coming from practitioners of the Homeopathic school. I do not doubt his word, but discrimination should be exercised as to the standing of those practitioners. Unfortunately, there are many of the so-called Homeopaths who are not physicians in the full extent of the word; and there are many so-called rational school men who are anything but rational in their treatment of diseases.

My impression is that Dr. Chambers could not assign on what principle he himself practices. He adopts remedies that have certain pathogenetic effects, and most of them act, I dare say, with all due respect to him, on the law of similarity. Drs. Chambers and Pavy have written well upon the diseases of the digestive organs, but both have come short of the mark. I could make long criticisms, but my aim is not to fight other men's ideas as much as to adopt what is good in them and forget the rest.

My practical experience with diseases of this nature leads me to state frankly, and without any sectarian feeling, that a remedy which has acquired a dynamic force has also acquired atomic force and molecular affinity for the malady in question, provided that the remedy is rightly selected: by that we mean, pathogenetically, in large doses; and, dynamically, when prepared for medical treatment and morbid diseases. There are only a few exceptions to this rule, and they are so few, indeed, that they come under the head of anomalies rather than of medical diseases, and are either toxic poisons, like chemicals, or malarious from alluvial soil, or indigestibles in the stomach, which require ejection by an emetic. Fæcal obstructions may require a good lubricating agent, like oleum ricinis. But these are more mechanical agencies than therapeutics. Again, the question is not of doses, for that matter is entirely experimental in both schools, according to the diathesis and idiosyncrasies of the patient, the climate, the seasons, and the type of the malady. Such good authority as Dr. Chambers ought to know what Professor Prout said about blue mass: "It is a most useful remedy in certain hepatic diseases, but like dram-drinking, if often used, must be increased, and leads to over-action and into debility of the liver, which is the focus of its action." Does not every well-informed physician know this, that blue mass is capable of producing a disease for which it is given by the rational school? Do not podophyllum, blue mass, aloes, strychnia, rhei, and many others, produce effects upon the stomach and intestinal canal, liver, and the absorbents similar to those for which they are prescribed? Do not quinia and belladonna, phosphorus and arsenic, bismuth and nutrum muriaticum affect the mucous follicles, the ganglionic system, and lymphatics or absorbents similarly as the disease they are given for? But there is no desire on my part to convince Dr. Chambers of the fallacy of his statements when he runs down "similia." It is enough that he does a wrong to science; and true scientific men should be above sectarianism.

It would not take much trouble to show the similarity of mercurial irritation to pyrosis and gastro-hepatic and gastro-intestinal disturbance. Ipecac and strychnia are well-known remedies to act upon the spinal plexus of the nerves, and through them affect the ganglionic. We could go on *ad libitum*, getting the physiological effects from a pathogenetic basis. The pathogenesis of acids and their chemical action demonstrate at sight where and how they should be used according to the law of similarity. And again, the action of the metalloids and metallic alkaloids upon the absorbents and lymphatics is well known. Give an alkaline water to people that do not need that agent, and what would be the consequence? Dr Chambers could answer us too well.

Dr. Chambers speaks of capillary congestion as a cause of pain in the pyloric region, and suggests a process of blistering and bleeding. Hyperæmia is recognized by thirst, quick pulse, and pain, but certainly the doctor has not forgotten the beautiful blush color made by the capillary ramifications of the stomach, and that condition is often produced by a sthenic disease and not by a simple phlogosis. What then? Is the hyperæmia from nervous influence produced by irritability to be treated as phlogosis *per se?* Surely, depleting has a temporary influence, and will even relieve neuralgia, but this superficial and temporary relief has no curative power.

Our remedies, given according to the law of similarity, proceed from the pathogenetic effects of the same upon any given point, and they are truly specifics when well chosen.

℞. Ipecac, 3-dec. grs. xxx.
M. et devid. chart. xx.

Dose—One powder every three hours.

An improvement was decidedly taking place. I used the remedy for five days.

I gave her two days rest, and then gave—

℞. Antim. crudum, 3-dec. grs. xxx.
M. et devid. chart. xx.

She used the medicine for five days, and then came to see me.

I perceived an improvement, as the mucous discharge had diminished and the pain had left her. But there was something more left, viz., hepatic trouble.

℞. Iris florentina, 3-dec. gutt. xvi.
Aqua distill., ℥ ii.

Dose—One teaspoonful every three hours.

On the fourth day she came and told me she was better every way. Her bowels had moved quite regularly, and the color of the fæces was more natural. Food did not distress her, and her general appearance was better. I prescribed

℞. Mercurius alkaliz. 3-dec. grs. xvi.
M. et devid. chart. xvi.
℞. Belladonna, 3-dec. gutt. xvi.
Aqua font: ℥ iisj.

Dose—One powder alternately every two hours with a teaspoonful of the liquid. The medicine lasted ten days, and during that time she observed the dietetic and hygienic treatment already mentioned, with cold applications upon the stomach and bowels.

I concluded by giving her liquor-potass arsenicalis, five drops in ten teaspoonfuls of water, and of this, one teaspoonful every four hours. After two months of treatment she left me apparently well, although she will never be a strong woman.

CLINICAL CASE III.

A young girl, seventeen years old, came to me in 1870, for treatment of a chronic dyspepsia. She was dejected and had lost nearly all hope of recovery, from having received no benefit from the dominant school of allopathy.

Physical Examination.—On auscultation I found the rhythmical action of the heart to be greatly disarranged. The pulsations were irregular and quick, with a small amount of organic force. On palpation I found the epigastric regions tender and bloated. The liver was enlarged and painful. The abdomen tympanitic, and bowels were constipated. She suffered at times with dyspnea, although the lungs were sound. Kidneys were irritable, and the urine was white and too light in specific gravity. Skin dry and impervious. Uterus feeble of action with scanty menstruations. Nervous system appeared entirely in a state of asthenia. She was of a nervo-bilio-temperament.

Semiology.—She complained of burning at the pyloric region, with pain at the base of the larger curvature of the stomach approaching gastralgia.

Food distressed her very much; it laid heavily and undigested for some time in the stomach, and had often to be ejected, which was generally accompanied with a large quantity of mucus: then she felt better. The abundance of mucus undoubtedly prevented the action of the gastric juice and the formation or organization of the peptones, thus the food fermented and became almost offensive, causing pyrosis and offensive breath.

She also complained of a dead feeling in the bowels, which conveyed the idea of perfect torpidity and want of muscular action (parystaltic) of the intestines. The constipation was often followed by free and diarrhœatic discharges,which relieved her from that unpleasant sensation of fullness, although she felt the effect of prostration. She slept badly and got up in the morning unrested.

She had no desire for food and felt continually in a state of exhaustion. Her tongue was coated with a slimy white mucosity and was trembling and very pale. She avoided society, although so young and pretty, and brooded upon her sad condition. She had spent much time and money and taken gallons of medicines, with perceptible injury to herself. She was desponding and suspicious; had lost confidence in physicians. She wept frequently, and everything seemed to go, as she expressed it, to her stomach.

Her complexion was far from clear; it had a hue of yellow tint deep in the skin. The liver was unable to go through the physical process of disengaging the biliary elements from the venous blood, hence biliary suppression. Having suffered for five long years, the disease was making great headway into the economy. The physical and physiological functions had lost vigor and harmony. Their influence upon the absorbents was established to an abnormal degree, debility and anæmia were disintegrating the very foundation of life. There was great mental debility and prostration. She became feeble and indifferent to everything. Hepatic derangement, with suppression of biliary secretion. The ductus communis was tumefied and engorged with mucus.

The lymphatic system was normal, except, perhaps, a little hyperæsthesia from sympathy and mal-assimilation. Her nervo-bilio temperament predisposed her to bilio-nervous affections. The alkalinity of the secretions of the salivary glands (cyanide of potassia) was insufficient, hence lactic acid in excess, and irritability of the stomach. The pneumogastric nerve, radiating from the lungs and heart to the stomach, was excessively sensitive, and by reflex action caused those complications already enumerated. Every sensation carried a certain influence to the stomach—the focus of the disease.

Her morning indisposition showed enervation; she was therefore unfit for any occupation; but as soon as she seated herself and commenced her allotted work she became faint, preceded by trembling and a cold perspiration. And again, pain in her bowels would soon produce a loose evacuation.

Etiology.—1. Indulgence in pastry and sweetmeats; 2. Over-study and late hours; 3. Abuse of vegetable food, and not sufficient nitrogen, producing a physical weakness of the chylo-poietic viscera; 4. Diminished physical force, and chemico-physiological functions; 5. Imperfect histogenesis.

The over-indulgence in any lacteous and saccharine materials deteriorated her health to such an extent that inanition was fast gaining ground. And these unassimilated ingredients became fermented, hence flatulency, eructation, and formation of gases in the intestinal canal.

These physical conditions were devitalizing and the juices became changed and acidulous. Her nervous system gave signs of asthenia; the blood became impoverished, hence hallucinations, insomnia from anæmia of the brain. Further, neglect of exercise, air, and bathing increased her physical difficulties. Her style of living in closed rooms, overheated by artificial warmth, and her disregard of proper diet, if continued, would have soon put an end to her life. It being beyond question that the digestive organs and their juices were seriously affected and perverted, the problem was presented to us clearly and forcibly: Can we restore the vis-vitæ and return to the system that which it has lost during a series of indulgence, neglect, and imprudences causing loss of physical force and normal action.

This proposition is not to be lightly answered. The complexity of the case is such that no hasty conclusion should be arrived at before a satisfactory examination of that which is favorable, and that which is not.

A cure, radical I mean, cannot be expected short of one to two years.

The re-establishment of a physical equilibrium and vital harmony cannot possibly be accomplished, without commencing the process of repair from the very foundation.

Evidently the starchy and saccharine materials were not easily acted upon by the weak gastric juice, and it passed the chyme into the intestines in an unsatisfactory or crude condition, there to become chyle. A perfect chyle cannot be elaborated from an imperfect chyme, for the very reason that we cannot make good bread out of poor flour or badly prepared yeast. This illustration is a practical way of delineating the boundaries of the two digestions. The whole histogenetic process was interfered with by this mal-assimilated chylification. The normal emulsion was out of the question; it could not be produced or vitalized properly from an acidulous chyme. Hence the proteine compound was deficient in those elementary principles that constitute perfect nutrition.

If we have reasoned upon our proposition correctly, the solution, or rather the proceedings necessary, are clear and well pointed out for us to act upon. First, proper nitrogenous diet; and the reason is obvious that this nutrient was the only one neglected, and that it was the only one in which I could expect any vital result.

Dietetics.—Allowed: Eggs, beef-tea, cream, roast-beef rare, mutton, clams, cocoa, peas, lentils, birds and fish. Not allowed: Potatoes, pork, hot bread or cakes, pastry of any kind. No coffee or tea, but wine and old ale.

Morning meal: Eggs, cocoa, toast, and oatmeal boiled for six hours.

Dinner: At first, beef-tea alone, with bread and a wineglassful of Burgundy. After the digestive organs gave sufficient signs of improvement, rare roast beef, or birds.

Supper: Cocoa, and a bird, or clams. This is the first stage of the dietetic treatment, and was followed by larger quantity and variety; but no amylaceous food or glucose was indulged in for a long time.

Hygiene.—Bathing every day in tepid, salt water. Gentle exercise, as walking early in the morning. And even these rules had to be changed according to strength.

After a few months, I ordered her to go rowing and riding in the country.

Medical Treatment.—It was imperative that I should use a rational mode of procedure to reinforce the physical functions. I became convinced that the therapeutic success depended upon which special system I selected for operation. The great depression of the central force and all its collateral branches pointed out to me the basis of operation. The emaciation, adynamia, inanition, and anæmia were four points which had to be relieved, supported, and reinforced.

If the so-called Rational school ever errs, it errs in the management of these cases, and the brilliancy of its eclectic system of medicine falls far short of the mark. The cathartics and stimulants which would have been used here, would have had a most destructive and unscientific effect. Physicians might deny that such a treatment would have been adopted; but, if so, they would not endorse the rules of eliminating the fæcal accumulations, disengaging the absorbents by the same process, and then toning them up, like harp-strings, to the normal condition with the tonic-stimulant process of quinia, strychnia, iron, and astringents.

I have no desire to find much fault with the other school, but when they assume the title of Rationals they must stand the test and the criticisms. No doubt they employ remedies that, if given in smaller doses and under a different principle, would succeed well, but heavy doses promiscuously given with compounds will never give them a compass to steer by, or a point of *appui* to go to with a reasonable amount of success. A mariner would be equally at a loss were he to follow the currents that seem to lead him, or the winds that swell his canvas, without any surer indications. It is my desire to point to remedies which have a peculiar and specific influence upon the organs of digestion, and leaving out many collateral remedies which frequently might be usefully employed.

I treated this case with the following remedies: Bryonia, quinia, phosphate of magnesia, pulsatilla, ignatia, natr. phosphoricum, lycopodium, bismuth, ferrum phosph.; kali sulphatis, carbo veg., pepsine, calc. phosphorica, manganine, etc. Now we can detect easily the relation existing between disease and remedy. It is, in my opinion, the most reasonable acceptation of the law of similia.

CLINICAL CASE IV.

Mrs H., twenty-seven years old, and a widow. She came to me in the spring of 1875, complaining of a chronic dyspepsia. After trying the rational school to her heart's content, without the least benefit, concluded that she would try the new one. She was a country lady and had the benefit of pure air, as the place where she lived was healthy.

Physical Examination.—Chest small and badly formed (pigeon-breasted). Respiration twenty-four to the minute, with a tendency to cough. No organic disease of the lungs existed. Atrophy of the liver and painful on pressure. Bowels constipated and felt hard and full. Skin dry, rough, and yellow. Great emaciation. Heart normal, although at times its functions or rhythms were disturbed. Kidneys were normal, but passed urine frequently and devoid of solids. Tongue coated yellow and corrugated. Eructation and flatulency with tormina, and, at times, diarrhœa.

Stomach tender on pressure. Face wrinkled and prematurely old. General appearance, that of atrophia lymphatica with a scrofulous diathesis.

Semiology.—I found her in the most deplorable physical condition. Emaciation, asthenia, inanition, and anæmia. She had been married several years, without issue.

She was of a lively disposition, but changed into sadness and despondency. Her nights were passed restlessly, her food disagreed with her and gave her pain in the stomach. She took no exercise, and had no accommodation for ablutions.

Her diet was composed of the usual kind. Pork, ham, fried eggs and meats, pastry and hot bread, with poor tea and coffee. She retired early and arose early. She had more to do than her physical strength could bear, and consequently became often exhausted, and suffered with severe headache and pain in the back.

The signs were those of mal-assimilation and mal-nutrition, with a tendency to heteroplastic formations. The result of deteriorated blood predisposed her to tubercular formations, and the nucleoli of the liver were shrunk and almost pervious. The condition was alarming in the extreme.

The gastro-enteric juices were perverted to poor chylification, and thus the histogenetic process was disarranged. The whole lymphatic system showed atrophy. The ganglionica and vasa-motor nerves were excessively weakened. The only beacon light of this fearful condition was a strong vital force.

Portal engorgement with hemorrhoidal tumors. The venous blood was impure and leucophemia was gaining ground. Suppression of biliary secretion from organic difficulty. The functions of the whole organizing process were deficient in physical and organic force.

The whole process of life and repair was so disturbed that chronic cachexia was stamped in her face. She was a sensible woman and retained much mental vigor, and therefore her condition was well known to her.

Etiology.—1. Scrofulous diathesis; 2. Physically feeble, and particularly the organs of digestion and assimilation; 3. Disregard of hygienic rules; 4. Indigestible ingredients of diet. I know not of any directly exciting causes.

Hygienic Treatment.—I must confess that I was at a loss how to commence a treatment, as my prognosis was unfavorable. I had no faith in a recuperative force, hence I was afraid to use radical agents.

However, I had no alternative, so I ordered a tepid bath with a tablespoonful of bicarbonate of potass, so as to act upon the absorbents, every other night. Cold water was out of question, and the warm bath would equalize circulation and temperature.

Again, I wanted to act upon the emunctories of the cutaneous surface, so as to assist the liver and kidneys in removing the effete materials.

1. Rubbing her whole person with a rough towel; and, 2. Walking or riding in the open air during fine weather, morning, noon, and afternoon. If not possible to ride or walk, she was to work in the garden as much as possible.

This plan, if well considered, often brings about such reaction as to insure success. Motion, atomic heat, light, decomposition, and repair, one and all, move in co-ordination. The nervous force increases, the blood becomes richer, and the equilibrium and harmony is re-established.

These elementary principles, blending, as they do, forces and physical laws, increase the great phenomena of the vis-vitæ and with it the secretions and excretions.

Dietetics.—These nutrients, to be useful, must be well chosen and well assimilated for the process of organization and repair. Oxygen is an indispensable element to the metamorphosis of physiological functions.

Nutrition cannot take place without combustion and heat, for this brings about functions and forces. The liver, one of the principal factors of the organization, must be stimulated to perform its organic function, and this can only be done by the least carboniferous and nitrogenous food, and the greatest amount of oxygen and pure water.

And yet the case needed some animalized food; and how to accomplish digestion was a difficult question, considering the enfeebled condition of digestion.

I put my patient on cream, which she could get easily in the country, morning and night, with old bread and no butter; beef-tea at dinner, with a little brandy, sugar, and water. I kept her on these nutrients for two weeks. Then, I allowed her oatmeal, cocoa, and the yolk of an egg; at dinner, mutton chops broiled, with bread, and a glass of wine. At supper, clam broth with bread and a cup of black tea. She gained steadily, her color changed from yellow to white, her pulse became full and even, respiration fuller and twenty in a minute. I kept her on the same diet, except with a little change in the quantity, and gave her peas, hominy, and rice. Coffee disagreed with her.

Medical Treatment.—I had very little hope from the therapeutics; but I thought I would use those agents well known to support the elementary principles of life. From my knowledge of the Rational school, I know that aloes, mercury, rhei, ipecac, quinia, cinchona, and strychia had been used *ad libitum*, and I therefore prescribed,

℞. Natrum phosph., 3-dec. grs. l.
M. et devid. chart. xxv.

Dose—One powder every four hours. The medicine lasted her a week, and then she came to see me.

In addition to this I applied hot fomentations to the liver at night.

She returned improved and in good spirits.

The diet was continued, as she became satisfied with it. I found that her stomach was not quite up to her general condition, so I ordered: ℞. Pepsin and hydrochloric acid, to assist her digestion.

Her improvement was quite satisfactory, and yet her liver did not act well.

℞. Podophylum, 3-dec. grs., xxx.
M. et devid. chart. xv.
℞. Nux vom., 3-dec. gutt. xxx.
Aqua distill. ℥ iv.

Dose—One powder every two hours alternately with a teaspoonful of the liquid.

On the fourth week she came back smiling, and had gained in strength and flesh.

The baths were continued, as well as the diet and exercise. I gave her general directions as to her mode of life and the following prescriptions:

℞. Bismuth subnitr., 1-dec. grs. lx.
M. et devid. in chart. xxv.
℞. Sulphur, 3-dec. grs. lx.
M. et devid. chart. xxv.

Dose—One bismuth powder every three hours. Next day the sulphur in the same way—alternating the day and the medicine.

The woman was strong in mind, and adhered to the treatment and directions. She left me.

The other day, five years after she first came to me, I saw her and she was well and happy.

CLINICAL CASE V.

In the year 1869, while I was practicing in the western states, among the agricultural people, I was called upon by a farmer, who was above the common average in intelligence and mental culture. He entered my office, and without prelude asked me: "Doctor, what is good for worms? we are all cursed with the devilish things." The question was a droll one, indeed, and surely not easily answered. He stated that for two years he had noticed that his children had worms, and that they grew pale and thin, and had lost that liveliness and mirth so natural to the young. He had given them vermifuge for months, under the guidance of a Rational doctor. It had only a temporary relief, and the parasites soon returned as bad as ever.

He was satisfied that the strong anthelmintics and the worms would soon have a deleterious effect upon the patients; so he concluded to see if a physician who was not of the Rational school could think and act with judgment.

I laughed at his jokes, but felt the force of them. I took much interest in the case, and told him I could give no answer without seeing the children.

Semiology.—The children were brought to me a few days after this remarkable visit. I found them emaciated, pale, and listless, with sunken eyes, tumefaction of the abdomen, offensive breath, itching at the anus, and incontinence of urine. They had a cough, voracious appetites, itching of the nose, skin dry and rough, and at night great restlessness, raising themselves from bed in a frightened condition, screaming and grinding the teeth together. At times they would wake up almost choked to death. In the morning they found worms crawling in the bed. They looked anæmic and starved. The mother's constitution was of a nervous, irritable character, having the most ungovernable temper; she also suffered from the same disease.

They were badly clad, and the locality was damp and swampy; they had bilious, remittent, and intermittent fevers, caused by an endemic, malarious effluvia. These poor creatures had constant looseness of the bowels, from irritation caused by these parasites.

The father brought me specimens of the worms in a bottle. I found them to be about an inch and a half long, white, with a sharp pointed head, viz., ascaris vermicularis, and under the microscope they looked like a shoemaker's bristle. This parasitic disease became chronic, and produced considerable physical changes from mal-assimilation and inanition.

Etiology.—Their main diet was pork, milk, corn meal, pastry badly cooked, bread made of poor flour, and heavy. Ham and succulent and starchy, indigestible articles were constantly in use. They lived upon these farinaceous and carbonaceous materials, omitting beef, mutton, fish, eggs, and nitrogenous vegetables.

The hygienic law was at *nil*, privies, stables, styes for hogs, etc., within a few yards of the house. The poisonous and infected air, with the water thoroughly impregnated with the floating molecules of these exhalations, together with the food, were the true proximate causes. Parasites generally spring from weak digestion, mal-nutrition, and fermentations. This was their condition. Their diathesis being leuco-phlegmatic predisposed them more readily to the disease.

Hygiene and Diet.—The principal object in view was to correct the proximate causes; therefore they were directed to use nitrogenous food (and abolish pork and starchy or succulent vegetables), i. e., beef-tea, mutton, eggs, fish, poultry, coffee and tea without milk or sugar.

I added a little claret wine if they did not desire the above beverages; the acid and alcohol were ingredients conducive to re-establishing the process of digestion, and thus preventing fermentations. I forbade pork, milk, molasses, potatoes, fresh bread and pastry generally. I ordered baths in salt water three times a week, and kept the children out in the air and warmly clad.

Medical Treatment.—It is in such cases that any law or school of medicine is to be put aside; the action of the medicament must be sufficient to permeate the excrementa with its morbific influence, and kill the parasite and its ova. It cannot feed upon the secretions that do not contain milky emulsion or saccharine materials, much less upon such things as oleum terebinthinæ chenepodium, or santonine.

℞. Pomgranatum cortex, ℥ ii.
Aqua (two pints), O ii.

Boiled for two hours and strained; one half wineglass before meals. This infusion was meant to act as a medical wash of the stomach and intestines. They took the remedy for seven days.

I had the pleasure of seeing an improvement, and directed that the remedy should be continued a week longer. They came to see me on the fourteenth day, and their cheerful faces and brighter color were unmistakable signs of returning health. The father reported that the stools were no longer loose or clay colored, but yellow and of a certain consistency.

Bunches of dead parasites were seen in the fæces; after this the appetite became more natural and the sleep undisturbed. I thought it proper to change the remedy, as I did not wish the system to get accustomed to it and thus lose its influence.

℞. Pulv. Kousso, 1-dec. ʒ; M. et devid. chart. xxx. Dose—one powder every two hours to each child and the mother also. The same diet was continued.

On the fourth week they still reported progress; but to insure a cure I ordered:

℞. Ol. Terebinthinæ, 3-dec. ℥; M. et divided in chart. xxx. Dose—one powder every three hours. On the sixth week they reported themselves well. These were interesting cases, and showed that where strong, irritating, and purging anthelmintic medicines had failed, a judicious diagnosis and light therapeutic treatment, with small doses, succeeded beyond question. The first and main object was to re-establish nutrition and physical force; and secondly to starve the parasite instead of driving them out by mere mechanical or chemical means.

The therapeutic idea was to permeate the intestinal excretions with an offensive ingredient, mixed with the fluids of the intestinal canal, but not sufficiently strong to cause irritabilities or mechanical evacuations. This process would have had the effect of gradually destroying the imbedded parasites.

The question with us is to use remedies by the law of similarity, but helminthiasis is one of the anomalies to which Similia has no relation. It is purely a parasitic disease, and not a dynamical one.

We do not claim that Homeopathy will produce vermine; neither can the Rational school claim any systematic treatment. Both employ a general treatment, taking as points of direction the diathesis, idiosyncrasies, and predisposing surroundings. The small doses permeate, together with the fluids, the fæces, and enter into the mucous corrugations; and thus we explain the action of an infusion or a trituration, having a decided advantage upon massive doses, which, it is true, expel large worms, but never cure helminthiasis as a constitutional disease.

CLINICAL CASE VI.

During my practice in Washington city, in 1866–68, a lady applied to me for medical advice. She was thirty-three years old, unmarried, and a clerk in the Treasury Department.

Physical Examination.—The rhythmical action of the heart was not normal, the systolic sound was short and increased in force.

No hypertrophy could be discovered. Stomach sensitive to the touch; no indication of ulceration. Intestines bloated with gas. Tongue coated yellow, with a slimy fur. Liver somewhat enlarged, hard and tender on the lower lobe. Lungs sound. Kidneys irritable from a strong ammoniated urine. Uterus perfectly sound, organically and functionally. Menstruation regular. Respiration slow and labored. Pulse full, bounding up to sixty-five to the minute. Physical development generally good.

Semiology.—She was of dark complexion and bilious lymphatic temperament and diathesis. Her appearance was of a pale and faded hue and she had yellowish spots on her face and neck. Her habits were regular and her occupation confined her to the office from 9 A. M. to 4 P. M., and no exercise was taken.

She complained of having lost strength, flesh, and appetite.

Her mind dwelt a good deal upon her physical condition, and she felt as though life was a burden to her.

She had no ambition to work, no taste for amusements or inclination to exertion. In her former life she had been actively employed in domestic duties.

Her family were healthy and she could not recollect that any members were subject to any particular constitutional trouble. The district she lived in was healthy, hilly, and in the north.

There were no illusory symptoms, from the effect of a morbid, imaginative, or hysterical mind. I could not trace her trouble to malarious diathesis or idiosyncrasies. She had never been exposed to any sudden change of temperature, vexations, or sorrow. No domestic troubles, no blighted affection were the cause. She indulged in no intemperance or late hours. She suffered with periodical frontal headaches. She was chilly, alternating with hot flushes along the spine.

Head burning hot and heavy; cold feet and hands; loss of appetite; eyes lifeless, pupils contracted; pain in the back; urine scanty and of a dark color; specific gravity—1020 to 1025, with a sediment of phosphate of ammonia; eructations of sour, bitter taste; pain under the scapula and in the region of the liver (not constant).

She was insomnious, taciturn, and fond of solitude; had lost all her energy; felt drowsy, and yet could not sleep; sparks before her eyes, with vertigo and nausea. She had taken advice from some physicians of the old school, but they gave her cathartics, bitters or tonics, which had neither permanent or curative effects.

Etiology.—Gastro-hepatic derangement. The liver was engorged with slow circulation and biliary retention, and the whole digestive tract was affected by it. The juices were acidulous and the assimilation was slow and imperfect. The chylopoietic viscera were performing their physical and organic functions imperfectly. The absorbents were all torpid. This organic and physical condition had been brought about by confinement in heated rooms and boarding-house diet and insufficient exercise—perhaps, also, loneliness and want of friends and cheerful amusements.

Biliary engorgement or retention is most generally followed by great nervous, sympathetic symptoms—as depression, irritability, chills, hot flushes, and mental disorder like hypochondria, or hallucinations.

There are three conditions by which this great organ can be affected: 1. Organically by malaria and the vicissitudes of debauchery; 2. By anæmia and feebleness; and 3. By nervous irritability and reflex influences from the digestive organs. Minor troubles might be enumerated, but they come under the same category of pathological lesions. The afferent and efferent functions are often sluggish and cause engorgement. It is of the highest importance to know the organic and physical conditions of the liver before medicating it. Is it hyperæmia or biliary engorgement, or both? Is this pathological condition organic or functional? Is it from reflex influences, or idiopathic or pathognomonic of the organ? Is it hereditary or acquired? Is it neurosis? Is it malarious poison, or high living and hypertrophy, or anæmia and atrophy? In the first morbid condition we have both tumefaction of the liver and atrophy and invariably joined with splenic complications.

I must premise that I have no fancy for liver doctors; nor do I consider that organ deserving of blame so often. The erroneous attacks upon it are frequent, and often without a scintilla of reason.

In mental depressions the functions of the liver may be affected abnormally, but the question arises with the physician, or should arise—Is it the liver, or the brain?

If the first is decided upon, it must be on close and unmistakable physical examination, and careful diagnosis, and with what pathological condition the organ is affected. If the second is decided upon, then the conclusion is, that the afferent and efferent functions of that organ are morbidly affected by reflex influence or neurosis.

In all cases of disease of the chylopoietic viscera, or stomach, generically called dyspepsia, the liver is involved; but is it sympathetically affected by mal-assimilation and inanition, or are the functions of the liver idiopathically affected, and are the lesions organic or only functional? In the hot climate of India there are the insidious hepatic disintegrations, a pathognomonic condition of the disease caused by destructive materia-morbi. There are, also, from various physical causes, cacoplastic formations in the organ itself.

Now, are the cathartics—drastic cathartics—saline cathartics, etc.—given so often by the Rational school, the proper agents to be so indiscriminately used when hepatic diseases proceed from sympathetic influences, either objective or subjective? The liver, when involved with the faulty process of chylification, suffers not only from sympathy, but from inanition, and consequently produces acidulous greenish bile and enfeebled organic action. Would cathartics be advisable to bring about a forced action, temporary and reactive, or retrogressive and debilitating? Would that be a rational treatment? But invariably in all cases of suppression of biliary secretion the remedy is without any further physical inquiry than a good cathartic, which, of course, produces a temporary mechanical action, at the expense of organic reaction, and increased debility. This system of purging with drastic cathartics is to be deprecated as supremely injurious, and producing incurable diseases of the liver. There are so many natural ways of getting at torpid organic functions without these irritating, exciting, depleting, and debilitating processes. The physical examination and semiology were sufficiently suggestive that we had a case of idiopathic liver trouble.

I stated that the diagnosis pointed out the true condition of the organ, which was biliary suppression. It is a physical disarrangement of the nucleoli, which are unable to act upon the infiltration of the biliary fluid, and conduct it into the little intercellular ducts for exit by way of the ductus communis. The impure venous blood goes on to the greater circulation and poisons the whole system.

But, had I made my diagnosis as retention, then I should have meant that the organ had performed its physical and organic functions, but that it or its channels were obstructed, either by want of force or by tumefaction from an acute or chronic inflammation, hence retention. Had we irritability, nervous excitement, and agitation, from physical or mental disturbance, then we would have a contrary condition, i. e., hyper-secretion, colic, diarrhœa, vomiting, fever, jaundice, high bounding pulse, mania, suppression of urine, and possibly red eruptions in spots throughout, with, perhaps, other complications of a cerebral order. But these cases proceeding from other diseases are reflected upon the liver by a physical co-ordination of forces and functions, differing from ordinary idiopathic liver diseases.

This condition of inactivity of organic action was brought about by enervation, caused by general mal-assimilation and nutrition. The constitution and blood were enfeebled by these causes, and the nervous system and organic functions became affected.

Hygiene.—Bathing in salt, warm water, exercise in the open air, and light animal food, the amylaceous predominating.

Diet.—Leguminous—oatmeal, peas, baked potatoes, milk, spinach, rice, sago; Nitrogenous — mutton, chickens, and fish. No pastry or hot bread, no beef, no butter, and no gravies. Coffee and tea forbidden. Lemonade, claret, wine and water.

Medical Treatment. — ℞. Nitro-hydrochloric acid; pepsine. The usual formula—one tablespoonful after meals.

Hot fomentations to the liver. After one week of this treatment, I changed for:

℞. Nux-vomic., 3-dec. gutt. xxx.
  Aqua distill., ℥ iii.
℞. Podophyl., 3-dec. grs. xxiv.
  M. chart. xii.

Dose—one teaspoonful every two hours, alternately with one powder. She took these remedies for a week longer. Her appetite returned, the tumefaction of the liver disappeared, the bowels became regular, the skin of a normal color, the pulse returned to a normal condition, and her nervous system gained its force and equilibrium.

CLINICAL CASE VII.

A Mrs. Keith, a married lady with three children, thirty years old, of a lymphatico-phlegmatic temperament. She had been sick for several years, and had employed both schools without any prospect of cure.

Physical Signs.—The lady was well developed, of brown complexion and blue eyes, having a tendency to fatness. Heart sound, and the rhythms were perfectly regular; lungs healthy; menstruation regular; kidneys normal, both structurally and functionally.

Semiology.—When I first saw her I found her lying down, and suffering with cardialgia and the most profuse pyrosis. The pain extended spasmodically all over the stomach, and was more common in the fall and spring. Excitement of any kind would bring on a paroxysm of pain, with pyrosis. Exercise was impossible, and even singing was out of the question.

She had eructations of sulphurated hydrogen, and an offensive breath. Food did not distress her, and she had a good appetite.

I examined the saliva and the contents of the stomach, and found a great quantity of ropy, excessively acidulous mucous and of a yellowish color. She had to keep a handkerchief constantly upon her pillow for cleanliness. Night and day she was equally affected. I became quite anxious, as she was very desponding.

The ganglionic system was excessively sensitive, and she was very excitable and imaginative. Her bowels were regular and were free from any complications of the liver. She was very feeble on account of this great loss of mucous. I could not detect any ulcerations, but the hypersecretions seemed to proceed from a physiological derangement of the secretions, i. e., saliva and gastric juice. The alkalinity of the salivary secretion was not normal, and her food did not contain a sufficiency of alkaline elements, hence the lactic acid abounded, and, together with the gastric juice, produced this terrible irritability and hyperæmia. But was not the nervous system primarily the cause and secondarily the effect?

Etiology.—I considered it a case of irritability of the mucous follicles of the stomach, with a sympathetic nervous hyperæsthesia, caused, in the first place, by a change in the constituents of the salivary fluid, and second, of the gastric juice. The remote cause was a predisposition to mucosities. The exciting cause an abuse of saccharine articles. The pathognomonic symptoms were like those of ptyalism by some irritating substance.

The disease was evidently one of a chemico-physiological nature, which brought about a hyper-secretion of the mucous membranes, the follicles, and the salivary glands; idiopathic and idiosyncratic to her constitution. There was no other appreciable cause to account for it.

It became organic as it was allowed to become chronic; and finally it produced a nervous hyperæsthesia, a natural consequence of a continuous drain of the secretions. This demonstrates forcibly the usefulness of a differential diagnosis between cause and effect. The pathognomonic lesion was organic and not functional. The nervous symptoms and the pain were sympathetic.

This pathological metamorphosis presented certainly irritability and hyperæmia, but neither entirely inflammatory or nervous. Pyrosis was a symptom, a feature, indicating a deep seated trouble in the organs of secretion; but not the disease itself. To treat merely a hypersecretion would be like treating a sick headache, caused by injesta, or gastric crudities alone. In this case there was no indigestion, supposed to be the offending materia morbi, but an organic disease, as a phenomenon of irritability.

Although we have admitted hyperæmia and hyperæsthesia, yet still we could not admit an anti-phlogistic treatment or an antispasmodic one.

There was neither inflammation or sthenia, *per se*. The bleeding and blistering of the old school, or the hypnotic, would have proved an unfortunate delusion. Looking at the disease from a logical point of view, I could only hope for success in a treatment on a chemico-physiological plane—the only one possible for relief and cure. Antispasmodic medicines and the hypodermic injections had been used, as well as the astringent tonics, without success. The old school had exhausted its science and eclectic theories, and there was nothing but true similia that could possibly do any good, on the basis of physiology.

Therefore the practitioner of similia should direct the remedies he employs to be chemico-physiological in their action. I prescribed kali chloras 1-10, in two grains powder, every two hours. The emotional system was engaged, therefore I gave belladonna 3-dec., alternately.

Dose—One powder every alternate hour.

Two days after I found her better. The pyrosis was less copious and the nervous irritability was diminished. I recollected two more points of my diagnosis, viz., offensive breath and sweetish taste in the mouth.

I ordered:

℞. Kali chloras, 1-dec. ʒ i.
Aqua distill., ℥ iv.
℞. Carbo vegetabilis, 1-dec. ʒ i.
Aqua distill., ℥ iv.

Dose—One teaspoonful of each every two hours alternately.

She went on with this treatment, and improved in many respects. The odor and yellowish color of the secretions was corrected, but the pain in the stomach returned at night.

On the fourth week I prescribed:

℞. Natrum muriat., 3-dec. ʒ i.
Aqua distill. ℥ iv.
℞. Bismuth subnitratis, 1-dec. ʒ i.
M. et devid. chart. xxiv.

The fifth week she felt much better, she went to church and sang in the choir during the service. Next day I was called to see her. She had suffered all night with gastralgia and pyrosis.

It was evident that she was not cured, although she was much improved. The Homeopathic treatment which had been used before had had no effect; and the law of similarity had been exhausted, and almost nothing seemed to be left for her relief. I prescribed the following remedy.

℞. Iris florent., 1-dec. ʒ i.
Aqua distill. ℥ iv.

Dose—One teaspoonful every two hours.

The result was surprising. She expressed herself very much relieved, and felt that I had found the right remedy.

Hygienic and Dietetic Treatment.—In this case I had little trouble in selecting the proper diet, because she could eat everything with impunity; but yet she was only allowed cream, mutton or beef broth, chicken broth, rice, oyster juice, and the like. No vegetables were allowed, but old bread, crackers, and rye bread were advised.

This case suggested strongly the want of cyanide of potass in the salivary secretions, a necessary ingredient to elementary digestion. In former prescriptions I have endeavored to supply it; in this last remedy, I only found a neurotic to serve my purpose, and thus removed a ganglionic influence.

She gained flesh and general health. I believe this treatment will meet with the approbation of the profession generally.

CLINICAL CASE VIII.

This case, although similar in many respects to the preceding ones, has some peculiar points of its own, which are to be found in the intensity of the symptoms and the complications connected with it.

Unless our mirror is at fault and our light deceptive, the most important features of the case are reflected in a very suggestive manner. There are a great variety of symptoms, differing in shades and indications, but easily distinguished by the practiced eye. The usefulness of taking into consideration all symptoms is to be recommended, but the important point is to take in the salient points of the true pathological conditions, thus directing your attention to them as the unmistakable signs of a certain physical or organic manifestation. The minor symptoms are generally sympathetic and secondary.

Mrs. N., forty-eight years old, of a nervo-bilious diathesis, dark complexion, well-developed, and the mother of three children. She had enjoyed good health and an easy, comfortable life.

Perhaps her mode of living well, and a sedentary life had predisposed her to gastric troubles; and, indeed, she recognized that fact herself.

Physical Examination.—Heart and lungs were sound; kidneys normal, yet the urine was scanty and of a heavy specific gravity, 1000–30, with a bilious cast. Liver large and somewhat hard and torpid. Stomach very irritable. Bowels inflated with constipation. Skin dry and yellowish. Her mental faculties were blunted; she could not arrange thoughts and connect ideas. Great and general prostration.

Semiology.—I was called to see her very early in the morning in the fall of 1869. I found her in her bed, suffering intensely from the stomach and intestines, gastro-enteralgia. A great quantity of flatus had accumulated in the stomach and bowels. She had nausea, and her tongue was coated with a yellowish white slime.

The abdomen was tympanitic and the stomach very sensitive to the touch. She made several efforts to vomit, but unsuccessfully. The spasmodic contraction of the muscular coat of the stomach and bowels upon the inflated organs produced the most excruciating agonies. She was restless, and had been sick for eight hours.

The pressure of the gas upon the iliac veins obstructed the portal circulation, and consequently the systemic circulation was altered.

She was threatened with syncopy; pulse small; extremities cold, with a cold perspiration, threatening collapse. The nervous system was so agitated and so severely tossed about that the danger was a temporary suspension of the great vis-vitæ, and perhaps death.

The splanchnic nerves were particularly affected. The contraction of every capillary was so materially dangerous that the heart was fluttering, jumping, and relaxing at a fearful rate. The symptoms were truly alarming. Respiration short and quick; in fact she could not inflate the lungs, as the diaphragm was unable to move downwards on account of the great inflation. The force from vis-atergo being disarranged, the whole circulation was in a critical state.

She had been constipated for some weeks, and sourness and pyrosis were the harbingers of the present condition. Her digestion had been poor for years, and she had suffered with dyspepsia every spring and fall.

The gas was odorless, because of carbonic acid fermentation. The bitter, sour taste indicated a slow abnormal process of chymification and passing unprepared chyme upon the process of the chylopoietic viscera.

This disarrangement of the stomach produced that of the intestinal canal.

The liver also had its indirect effect, by not passing the bile into the intestines, hence inflation from fermentation. It is a well-known fact that bile has a material influence upon chylification, and upon the effete materials thrown out as a waste, in preventing fermentation by its pungent carboniferous fluid, which is the result of decomposition of the venous circulation, and, to some extent, is mixed with a nitrogenous element. The hydro-carbon is absorbed, while the yellow, nitrogenous, effete part of the bile goes out with the fæces. Now, then, the hydro-carbon is the glucose part of the biliary secretion, and aids in the calorifacient process of intestinal digestion. The physical and physiological functions of this organ are well known. These few lines of elementary principles will refresh our memory as to the difference between suppression and retention, and bring it more forcibly in comparison with our clinical cases. We must follow the diseases appertaining to the digestive organs upon a physiological knowledge of their suppressed functions. The link is well connected, and the chain is so closely dependent upon every link being sound, that mistakes are often made by the best of physicians.

Then comes the question, was not this mischief the result of bad chymification in the first place, and the liver and chylification secondarily affected?

The two processes are so dependent upon one another that very rarely do we have the stomach affected without the enteric juices feeling the effect of it. Yet there are such cases, both gastric and intestinal being singly disarranged; then, of course, the difficulty is easily recognized. And just at this juncture comes the question of nitrogenized and histogenetic digestion, and hence, whether the elements of nutrition, which are mal-assimilated, belong to the former or latter class; in other words, whether we should prescribe this or that kind of nutrients. With this comes the idiosyncrasies of the diathesis and predispositions thereof, and again, the exciting causes. With this strong diagnostic force in hand, the probabilities are that we cannot go far astray from the true course of treatment. It is obvious that high-living individuals are often affected by liver complaints, because of the large amount of effete elements in the venous blood, which the organ is not always able to filter through its cells. We have another condition, and just the opposite of the first, i. e., mal-nutrition from improper food, or semi-starvation. In those cases we have also hepatic diseases arising from organic debility caused by physical inanition.

While we would do well to prescribe an abstemious regimen to the former, we should prescribe a generous one to the latter. While amylaceous food would do for the first, the nitrogenized should be given to the second.

Frequently we have organic or structural diseases of the liver, caused by climatic causes or constitutional reasons; but in the largest percentage, the hepatic regions are affected by an imperfect process of alimentation and digestion.

It is not always the liver that suffers, but the lungs, heart, and kidneys. Morbid cachexia of the nervous system, gouty affections, etc., often result from mal-assimilation and mal-nutrition. Melancholia, hysteria, hypochondria, asthenia, and even mental aberrations, epilepsy, helminthiasis, etc. The last are the innumerable cutaneous affections which cause so much suffering, and from which none are exempt—neither the gourmand or the beggar, the plethoric or the anæmic.

Etiology.—1. The bilio-nervous diathesis predisposed her to hepatic complications. Her idiosyncrasies were lymphatic and predisposed her to leucophemia. She might have been classed amongst the hyperplastic lymphoma. She inherited a long life, and her constitution was strong and well developed.

2. High living and indulgence in luxuries and pastry.

3. Excessive use of coffee, late hours and suppers.

4. Sedentary life and hot rooms in the winter.

5. Of late, mental anxieties, on account of financial troubles of her improvident husband, was one of the principal exciting causes. These and other minor humiliations produced a sympathetic or emotional influence upon the delicate organs.

Hygiene.—Nothing could be suggested except bathing. Exercise, early hours in retiring and rising, and a protective flannel around the stomach and bowels.

Dietetics.—Mutton broth, beef-tea, oyster-soup, but not the oysters, clams, mutton chops, and chicken. The albuminous and amylaceous articles of diet were forbidden, as she had the difficulty of an enfeebled chylification.

Medical Treatment.—The case was severe and required immediate relief, by which I do not mean an entire cure.

℞. Tinct. Assafœtida, ℥ i.
Aqua bulientis, ℥ iv.
M. Injection—one quarter at a time.

℞. Lycopodium, 3-dec. ʒ i.
Aqua distill., ℥ ii.

Dose—One teaspoonful every fifteen minutes; and hot poultices applied to the abdomen, with drinks of hot water added.

She soon became quiet, and slept for half an hour. Then a free evacuation of the bowels took place. She was much relieved and the eructations from the stomach were excessive. But yet at times she felt the pains coming back. I gave another injection with assafœtida and a few doses of lycopodium and the hot drinks. She slept again for over an hour, and had another large evacuation with a great amount of gas. I made an examination and found the abdomen relaxed, no pain in the stomach, and no pain on touching it, except that of great soreness. I continued the hot fomentations.

℞. Merc. alkalizatum, 3-dec. ʒ sj.
M. chart. xv.

℞. Lycopod., 3-dec. ʒ i.
Aqua distill., ℥ ii.

Dose—One powder every hour alternately with a teaspoonful of the liquid. At the sixth hour she was convalescent.

I left her in the afternoon comfortable, and returned next day. I found her still more comfortable, and she told me she had had several copious evacuations, which relieved her very much. I continued the treatment all the second and third days. On the fourth, I gave her no medicine, nor the fifth. On the sixth day, I commenced my curative treatment on a chemico-physiological basis. The first two remedies I considered thoroughly Homeopathic, having dynamic effects upon the nervous system and secretions as well; but the main object was to remove the offensive matter, and add agents that would stimulate hepatic action and nervous influence; this was accomplished. There were many other remedies indicated as well, e. g., colocynthis, aloes, nux vom., camphora, belladonna, natrum carbon, etc. The object of the following treatment was to aid the vis medicatricæ naturæ on a logical principle. Have we not admitted the want of chymification, and the enteric or chylopoietic derangement in consequence? We have also seen the effect of this mal-assimilation upon the liver, hence we can suggest remedies that have a direct and specific influence upon those organizing processes.

I prescribed:

℞. Acid hydrochl. dil.,	ʒ ii.
Pulv. pepsine,	ʒ ii.
Aqua bulient.,	℥ ii.

Dose—One teaspoonful every four hours, or after eating.

℞. Pulv. aloes, 3-dec. ʒ i.
M. chart. xxx.

One powder every two hours.

She recovered entirely, and never afterwards had a similar attack during my residence there, which was four years in length.

CLINICAL CASE IX.

Miss C., an unmarried young lady of twenty summers, of a nervous, lymphatic temperament, of small stature, gray eyes, and regular habits. She complained of much pain in the cardiac region of the stomach, and particularly after eating.

Physical Examination.—Heart sound. Lungs in a normal condition. Kidneys irritable, with a heavy yellowish shade of the urine.

At times she found a white sediment at the bottom of the vessel, with strong ammoniacal odor. Stomach tender to the touch. Liver enlarged and rough, not having that natural smooth surface of the normal organ; tender on touch. Conjunctiva of the eyes of a yellowish color. Skin rough and dry, impregnated with yellowish pigment.

Semiology.—Constipation; very irritable; sad, gloomy thoughts; insomnia; headache; great exhaustion and weeping; pulse weak and compressible; countenance haggard; tongue coated white at the edges and slimy yellow in the middle. She had a voracious appetite, and could eat at all times. She tasted her food after eating for a long time; pain in the epigastrium.

Flatulency and eructations annoyed her constantly. She suffered with pain under the right scapular, short breath, and cold chills running down her back. She was so feeble that everything tired her beyond measure.

Her menstruations were regular. Urine of a heavy specific gravity—1000–31. Eructations were often sour and bitter, and breath offensive. Her whole organism was affected by this devitalizing mal-assimilation, and the physico-vital forces were steadily undermined. She was fat, but asthenic, and inanition was threatening.

The gastro-hepatic and enteric symptoms were those of a severe case of mal-nutrition. The nitrogenized and non-nitrogenized elements were both equally and imperfectly organized. The blood became poor and serous —the fats only were emulsionized and kept her looking well—and so the tissues were scantily repaired. Animal heat and combustion, so necessary for the process of decomposition and composition, were at a low degree. Her whole economy was fast descending, as the blood-cells were losing the hæmatine, and becoming inactive and wasted. Leucothemia would soon have had the supremacy, and cacoplastic formations, or some malignant or devitalizing disease of a low form would have been the unavoidable result. Often dyspeptic people are fat.

Etiology.—She was indiscreet in eating, and very fond of pastry and molasses. She indulged in the heavy kind of badly-cooked food prevalent in the country—sausages, pork, ham, and fried cakes and meats; hot bread and pies, *ad libitum*. She took no exercise in the open air, although she had some domestic occupations. Slept on a feather-bed and in closed rooms. Ablutions were more of a novelty than a daily or weekly duty.

Pudding, potatoes, and candies were the delicacies in which she found pleasure. This sums up the whole history of the case. It was idiopathic, and neither diathesis nor inheritance had anything whatever to do with it.

The enervation and the hepatic complications were subjective symptoms produced by the same cause. The organic functions of the liver were torpid in consequence of too much alimentation; the cells were filling with the fats from the alimentary canal, and the abundance of it acidulated the chyle, to some extent, and the process of histogenesis was consequently impaired from an imperfect organization of proteine compounds.

The symptoms of enervation and excitability were obviously due to the described condition of her general system. A reflex influence was brought from the sympathetic filaments to the ganglia, and from there to the centre. Both the centripetal and centrifugal forces were in a state of hyperæsthesia. In these cases we often find the so-called sick headaches, menstrual disturbances, and renal complications. The gastro-enteric juices had become enfeebled and acidulated.

She had employed a Rational physician (Allopath), and therefore took physics and tonics *secundem artem*, but the trouble was never removed.

Hygiene.—Bathing and hot applications to the liver were ordered. Walking and riding in the open air were also observed.

Dietetics.—This was the great general difficulty, for she was young, had a good appetite, and was unruly. Fish, oysters, clams, dry toast, old bread—no butter—mutton, and chicken, with tomatoes, lettuce, or green cabbage with vinegar. The acidity of which she complained was not from an over-abundance of gastrc juice; it was the result of greasy food, which became butyric acid. She did not have the symptoms of gastritis from a hypersecretion of gastric acid, but more from the result of fats and fermentation. But if the food had been of a proper quantity and kind, the organizing principle of the stomach might have been sufficient to perform a normal digestion; but since the abuse of over-nutrition the juice and peptones had been very much enfeebled, and hence the necessity of bringing artificial agencies to add the elements required.

Medical Treatment.—

℞. Hydrochlor. acid diluted, ʒ i.
Pepsine, ʒ i.
Aqua bulientis, ℥ iv.

℞. Nux vom., 3-dec. gutt., xxiv.
Aqua distill., ℥ iv.

Dose—Two teaspoonfuls of the digestive agent after eating, and one teaspoonful of the nux every two hours between meals.

The first agent to supply chemico-physiological principles; the second, to act upon the nervous force dynamically. Chemically alone, we cannot expect a permanent and a physical cure, but by adding simply the material wanted, together with our dynamics, the recuperative power of nature is frequently re-established.

This treatment was continued for one week, at the end of which time I saw the patient much improved and the chymification re-established. Nevertheless, there was still much to be done.

The liver and calorifacients had not yet returned to their normal functions.

℞. Podophyl., 3-dec. grs., xxx.
M. chart. xx.

℞. Natrum phosphor., 6-dec. grs, xxx.
M. chart., xx.

Dose—One powder every two hours alternately.

The secretions improved wonderfully, and she left me before the cure was finished.

I should have continued with bryonia and belladonna, and finished it with quinia and pyro-phosphate of iron.

There are two remedies which I would recommend, viz., iris vers and collinsonia.

PART II.

CHAPTER I.

IDIOSYNCRASIES AND PREDISPOSITION.

In the preceding part I have endeavored, by useful and practical illustrations, to support (by clinical cases) the theories which I advanced in my first proposition, i. e., that mal-assimilation and innutrition are frequent causes of a pathological metamorphosis of organic life, which sooner or later must bring about a more general disarrangement of the co-ordination of the physico-vital phenomena.

And in this part we will study a new proposition and argument, i. e., the idiosyncrasies and predisposition of the feminine sex to diseases of this nature.

Convinced that this is rather a virgin soil, touched only in relation to diseases of women in the nature of uterine and the sexual organs, I make a new departure and take up other than the diseases of the generative organs, with which the present subject is disconnected.

I shall touch only upon the diseases and symptoms proceeding from mal-nutrition and the pathognomonic lesions, structural and functional, of the organs of digestion, with the connecting and inseparable chain of the physico-vital phenomena, i. e., the nervous system.

It is well understood that social position, occupation, nature, climate, atmosphere, domestic relations—single or married—have much to do with these diseases. What might be only a temporary inconvenience to a man might easily overcome a woman, and might produce great nervous complications, either general or special, centric or excentric; and these may be spinal, cerebro-spinal, cerebral alone, or ganglionic; sometimes circulatory and at others lymphatic. These complications often arise in women while men are almost exempt from them. The ganglionic and lymphatic systems are very much more sensitive in women than in men, more easily put out of equilibrium, thus complicating diseases to a wonderful degree. The female sexual organs are prone to have a reflex action upon her whole organization. Her physical development and force are less enduring, and consequently more easily disarranged and enfeebled, rendering her organizing functions difficult and incomplete. The vital force seems to be a prerogative of the female sex: it is a fountain inexhaustible beyond comprehension. This is a relative and co-ordinating force, an offspring of physical and physiological forces; but there is something nascent and peculiar, because if it depended upon the machanical or dynamic forces it would most certainly decrease or increase, ascend or descend, according to the physical development and functions of those correlative agencies.

Although linked to a large degree with other forces, the dynamic possess a peculiar strength, located, as I believe, in the ganglionic system, as a focus of supply when there is a necessity for its equipment.

With this acceptation we must admit an extraordinary amount of dynamic force existing in the great sympathetic system of the female. It is already conceded that the ganglionic system is greatly developed in women as an idiosyncrasy of their sex. In sensibility, in intelligence, in brilliancy, in endurance of suffering, in affection, in hatred, in quickness of perception, in virtue, in vice, in morality, in religion, in generosity, in avariciousness, she excels the male, and therefore we must admit that these qualifications characterize the emotional of the sex as of a finer and more sensitive nature than our own. This word sensitive derives its origin from the sensory system of nerves, and who doubts that the ganglionic system is the nucleus where a finer ramification of nerves branch off to furnish all the organs, supervise organic functions and circulatory apparatus.

These ganglia are found in the cervicle at the base of the brain (the largest), the cardiac ganglia, the lumbar, the sacral, etc. This peculiar dynamic force exists in these ganglia and its nervous filaments. The recuperative power of nature lies mainly in these ganglia, and the process of nutrition and repair is supervised by this dynamic force, in connection, of course, with other forces.

From this point of view we may study and reflect upon the whole field before us in a most scientific and logical manner. In view of this I feel justified in considering the subject for a study apart from the other sex.

Wealth and comforts, with ease and a sedentary life, do not promote strength and health. Our ancestors had to work much more than we. The inventions of the present day—relieving people from many hard drudgeries—did not then exist.

The convenient arrangements of the range and cooking apparatus, the hot and cold water constantly at our disposal, the washing and the sewing machines, and all the paraphernalia of domestic utensils were unknown.

Our ancestors had to do all their work by hand and endure hardships that we have not. But all this, hard as it appears, gave them strength, fortitude, and patience to bear, together with health and strong constitutions.

Dissipations were few in comparison to what we have now. Dancing, late hours, late dinners, and fashionable life were limited to a small number. The extravagances of a large number of servants, carriages, and horses were not indulged, except by the richest people. They lived economically and in accordance with their means and the laws of nature.

Music, although very commendable, did not occupy the first place in a young lady's education, nor should the symphonies of Mozart, or the tender notes of Rossini, or the cantatas of a Stabat Mater, or the thrilling operas of Verdi drive out all study of what is practical and useful. And while I touch upon these points I believe that the readings and teachings of this day are not, what would prepare young ladies for the hard fight of life, and the prosy and unpalatable acquisitions necessary for wives and mothers. The rudiments of Latin, Greek, music, mathematics, algebra, navigation, poetry, chemistry, etc., are deceptions of knowledge. Better be a good housewife than a mere varnished, unreal piece of whatnot. Better be a good cobbler than a quack doctor, or a charlatan of a lawyer.

The assertion, perhaps, may be questioned, but it is nevertheless true, that in our days of intellectual race, we often forget the first principles of what is really essential to human happiness and comfort. We are carried away with astonishing inventions and discoveries, neglecting, however, those practical things which form so vividly part of our existence, our morals, our religion, and our character.

Do not the above truths prove our flimsy, superficial, and inconsistent interpretation of what should be the education of the young? My opinion is, that if more goodness, charity, and self-denial should be instilled with the true idea of virtue, of duty and moderation, the real essence of nobleness of human nature, the fruits of this peculiar culture would be far superior in quality and effects to the superfluous and empty vagaries of our present system of education. This does not apply to those whose fortunate lot affords the means and facilities for pursuing scientific and artistic studies to a high degree of usefulness, but simply to the poor girls whose path in life is expected to be arduous and practical.

Progress and civilization have brought us many advantages, many comforts, and many social improvements; yet the matrons of old had stamina and stoical principles of right, the correct idea of work, appreciation of frugality and honor, and devotion to their duty and their families, of which we stand much in need in this progressive century.

As illustrations bring forward the proofs and facts of the subject in question, the demonstration should be made by separating the sex into two grand divisions: First, those in affluence and comforts, and second, those whom God has intended to labor for their daily bread.

Nature seems to adapt itself to circumstance, and renders the human system fit for its work and exigencies. Those whom destiny has placed in the laboratory of activity become large in frame and strong in health, and meet the duties of their calling with patience, perseverance, and contentment. The peasantry of Europe are well known for their hardihood, and their offspring are gifted with remarkable physical strength; they are free from the myriads of ailments to which the people of affluence are constantly subject.

They are particularly free from diseases of the digestive organs. Nervous troubles are almost unknown amongst them. Their maladies are generally acute and serious.

Their simplicity of living, their methodical habits of rest, work, and food, their unexcited imagination, etc., leave them a freshness, a modulated disposition and sweetness of temperament pleasant to behold.

True, their superficial beauty, perhaps, soon changes for hardness and solidity of constitution and form, but they lose nothing of their physical force and vital vigor.

The wives and daughters of artisans, tradesmen, and mechanics are not always living a life of simplicity; they are generally congregated in towns and cities; they do not always possess the blessings of unalloyed morality, rural primitiveness, and frugality; vices of various kinds creep in amongst them. The vanity of dress, and the love of external appearances and embellishments, destroy many homes which otherwise would be happy.

These unfortunate weaknesses lead them astray from the path of duty and honor, and miseries, heart-aches, poverty, and domestic quarrels soon ruin the very foundation of their existence. The deceitful pleasing attractions of amusements; the apparent easy and comfortable mode of living; the gay street and stores, and the bewitching fashions carry them into many pitfalls, which their country sisters are not exposed to. The comparison is too vivid and true, and while the country girls work hard, dress unbecomingly, and live in secluded houses, they lead a life of morality and modesty, which has for its reward contentment, cheerfulness, comfort, and, above all, happy homes and pure consciences. Would any one change the rural country life for the many trials, disappointments, and bitter tears of the poor city woman?

The above is one class of women, only situated differently in life, and hence different are the consequences.

We will now look at the affluent class, whom fortune has favored with comforts and plenty, and therefore it would be but logical to suppose them the fairies of the promised land. On a superficial view of the subject it might appear very possible, but deeper researches soon undeceive the observer and open his eyes to the sad realities of an artificial life.

This higher and intellectual class of women have also a certain destiny to fulfill, namely, the education, ornamentation, and refinement of society. They have to encourage industry and labor, fine arts, belles-lettres, and literary societies and pursuits. These are the wives and daughters of our legislators, lawyers, merchants, bankers, doctors, and professors. These are they who fill the fashionable theatres, the watering-places, the ball-rooms, hotels, stores, millineries, etc. These are the elements that give tone and taste to society, and to them we are indebted for much that is beautiful and æsthetic. It is also true that they are not only the companions of our best men, but they are the motive power of all our great exertions and enterprises; in fact, they are the magnet to which all our mental efforts are attracted for admiration and approval. This is good and providential for the progress of the human family. The benefits arising from this feminine influence could not be demonstrated. It is a mountain of good whose volcano throws to the surface fountains of blessings.

From the silent atelier of the painter, and from the student's room, to the chemist's laboratory and the inventor's mechanical apparatus, woman is the motive force —the genius that supplies the incentive element, " the power behind the throne," and her ambition is the true spur to man's intellectual development.

These two great classes, although diverging in their peculiar positions and occupations, form the grand total of the human and social family—both useful in their particular departments, and both addicted to indulgences and vice, to virtue, industry, and morality. The systems adopted must naturally be different; and while the higher class of women seem to have gifts that others have not, they have also relative responsibilities, duties, and trials that those in a lower sphere of life can hardly appreciate.

And now it is well that I should return to our medical subject; believing that much illness is the result of deviations from a plain and simple mode of life, especially when replaced by the artificialities of society. This previous comparison will sufficiently demonstrate, the force of my argument.

It is not always the case that dissipations are intentional, but the false impressions and notions of what is good and healthy lead to them. The prevailing idea seems to be that the more food is consumed, the more wines, liquors, and stimulants of various kinds are used, the more completely are life and vitality supplied with the elements of nutrition; but they are often disappointed when the results fall short of the mark.

If oxygen is necessary for vitalizing the blood, they add food, and hence carbon. If they require motion, heat, and decomposition, they add rest, indolence, and stimulants instead. If they require mental and physical activity, they waste it on balls, fashions, novels, etc. They seek to devitalize, exhaust, and neglect every principle, every organizing function, hence nutrition and physical force gradually descend to asthenia and inanition, bringing with it adynæmia.

Our present knowledge of physiological laws and functions demonstrates the fallacy of the principle of indulgence. Nutrition and force depend upon the agency of simple elements, but in connection with it, we require physical influences from the outside, i. e., air, motion, light, electricity, and water.

So, really, life is sustained by two grand principles, nutrition internal and nutrition external—one animal, the other physical. From these two principles we receive the recuperative and repairing forces.

Should the physical laws be guided differently, the gourmand, the wealthy, and all those that enjoy the riches of the country, would be stronger and healthier in proportion. Where could we find muscle enough to work our coal mines, our railroads, our canals, our farms, and our factories? If force should be adequate to the amount of food taken, or of stimulants drank, the rich alone could perform manual labor.

But the reverse happens to be the case. The temperate class, whose judgment and education have taught them to use what is right and proper, and to avoid abuse are those who are rewarded with strength and health.

Women, above all, are those that should learn well these principles, for they are, to a great extent, the basis of social happiness and national strength; they are the promoters of home comforts; the health of future generations, and intellectual development. The rules of hygiene particularly conduce, with proper food, to enhance physical force. Mentally, woman is impressionable, easily excited, and imaginative, therefore it is necessary to inculcate these laws, in order that she might soon be capable of controlling her appetites and fancies; and the reward would be physical strength and beauty. Sensible wives and mothers are unsurpassed blessings to society; they are the very foundations of the happiness of future generations.

The external influences of climate, occupations, associations, and readings should not be undervalued, for truly they have astonishing effects upon the morals and character of the people.

A physician practising among young women, no matter what class, should inform himself of the surroundings that mould the habits and character of his patients. From this source he can gather untold information, which might have a bearing, directly or indirectly, upon the malady; it may even be the very source of the evil. It should be thought necessary to give advice to young women, especially upon the laws guiding the periodical change, and its physical and physiological influence upon the whole organism.

The women of the working class are generally occupied and kept aloof from any morbid, or imaginary, mental troubles. Exempt from idleness, from late hours, from too stimulating food and beverages, which, when constantly indulged in, bring about retrocession of the natural forces and nutrition, this class enjoy generally better health and more physical beauty than their higher born sisters.

Happy is the man and woman whose time does not weigh heavily upon their hands (rather say upon their minds). Occupation is the natural and necessary employment of the mental force; it is the healthful stimulus of mental activity, and here, as with all physical laws, action brings about reaction, and a new force of physical and organic vigor is the result. The supply is perennial: the mental strength increases in vigor during proper employment to a wonderful degree. Action is life, without activity it becomes extinct. The elementary forces are at hand for this grand and great purpose, and if we neglect to use them, to appropriate their beneficent agencies, it is our own fault if we suffer.

In justice to many good women of both classes, it must be said that much is done by them daily that is noble, self-denying, and worthy of their generous and high conception of the duty devolving on them in the path of life.

And to these noble women we owe refinement of manners and of feelings, culture, mental and social, and many of the charitable institutions are living monuments to their great and good work. No social position or wealth alone can make a true woman. Her ornaments are those of the heart. Nobleness of nature is only shown by noble acts; and a woman is only superior to another in proportion to the amount of good she does in her sphere. The attainment of high virtues proceeds simply from a pure, generous, and sincere inspiration, the fountain of which is in the heart. Happiness springs from a succession of good actions; mental and moral acquisition, without these true foundations, are mere meaningless names, without an object, without an emotion, hence, without a result. The æsthetic belongs to woman as her right. All degrading habits and vices should be eschewed by the pure heart, without which the fragrance and beauty of gentility cannot be attained. Drunkenness or gluttony cause the neglect of those feelings of a nobler nature. "A man's a man for a' that," but never a gentleman, or a gentle lady, without expunging the contaminating influences of indulgences in every phase of life. It is only through a strict accountability of action that we can impart morality and individual nobility of character.

A noble act is always rewarded by the consciousness of having done right; a mean, degrading act is punished by an opposite knowledge, or that of having done wrong.

Inasmuch as we have reached the intellectual qualities and social influence, it is to be observed that the training of the mind is as necessary, and as successfully accomplished as that of the body. Strength is imparted only by strict observance of the laws regulating both; both are connected by a strong link of relationship unavoidable, and each reflecting its peculiar influence upon the other.

But it is only necessary for the most casual observer to look out upon our great century of progress to be convinced of the gigantic strides of intellectual force. If perseverance and strength of will are retained at our command, we are capable of as much intellectual as muscular development. And so it is with all our links of sociology. Endeavor to do well, and cast off the low, degrading, impoverishing, destructive elements of vice and neglect, and good will germinate.

The refinement should not only be confined to manners and taste, but to thoughts, aspirations, and feelings. Educate the mind and the heart. Surely good qualities, like everything else that is good, spring from its elements or nature, but that good, well employed, can be increased to an inconceivable degree.

Our chain of thought has not parted from the anchor, which holds still to the subject of force and development. The mental are not separate from the physical laws; and what is the rule with the latter is also with the former.

Returning to our first proposition; we have surely seen the effects of labor, and proper regulations of life compared with those whose good fortune cast them silver and gold, but whose misunderstanding of life develops only elements conducive to disintegration, physical and social.

The conclusion is now reached by actual demonstration, namely: action brings back force and life; activity of mind and body develop to a wonderful degree their resources and strength; health of body, of mind, and of thought depend upon many agencies—1. The true interpretation of nature's wants. 2. Adherence strictly thereto.

The endowments of these two classes of women must depend upon their amount of physical force. They must acquire this before they are able to undertake mental or physical labor; and this is only done by exercise, gymnastic or otherwise, and employment of the mind, which is mental exercise. These are two healthful and indispensable principles. Then heat, light, diet, etc.

In these lies the great fountain of life. The young ladies should rise early, walk, and breakfast early. Then mental or domestic employment should be their choice. At this very point we see clearly the connection between physical and mental exercise or labor.

And if this is not done, inertia, retrogression, and decay are the results.

It is needless to repeat here that from the act of decomposition that life and force spring forward which are lying dormant in matter, put there by the great Providential Entity; and that this can only be accomplished by applying the proper agencies.

And when life has made its appearance we must sustain it, repair it, and increase it by the same law. The equilibrium of this great principle is found in properly understanding the method of action and reaction. Is a young girl devoted to study and retirement? She needs physical action to bring back vital force. Does a laboring woman work too hard? She needs rest, for the physical waste is too great in proportion to the repair. The two opposite and yet parallel cases of gaining or getting what is necessary to life are plainly visible to every one. The axiom is indisputable. The great remedy lies in teaching these fundamental laws; to cure evil we must understand from what it arises, and how it is to be avoided.

CHAPTER II.

PROXIMATE CAUSES OF MAL-NUTRITION.

Almost every organ may produce a change in the digestive apparatus by sympathy and reflex action. And so, vice-versa, the functions of digestion being impaired the general system must suffer, and those organs whose physiological relations are correlated and closely connected with the functions of organization, are the first and the more predisposed to be affected, i. e. the stomach, the liver, the heart, and the kidneys. The influence of the mind upon the process of organization through the nervous system is obvious.

It is not intended to take up psychology, but merely to endeavor to demonstrate the great variety of causes which are capable of being, and may often be direct causes of adynamia, from want of the proper agencies of nutrition.

It is therefore well, that we should be very particular in making differential diagnoses between cause and effect: or between idiopathic *per se*, as entirely disconnected with any other organic reflex influence. This does not discourage symptomatology in the least, on the contrary; we must be very careful in distinguishing primary from secondary symptoms; the pathognomonic from the subordinate and sympathetic symptoms. And in this way alone can we take the picture, and receive and study the impressions so as to form a true conception of it. It cannot be denied that symptomatology, even with all its present imperfections, is one of the brightest jewels in the law of Similia.

The structural part of the brain is too well known to require any anatomical description. Its spongy, tubular filamentous and cellular arrangement is all included in the white and gray matter—the former the sensory, the latter the motory, and from the unity of these too, there is a further arrangement, a great provision made, namely the ganglionic system. This beautiful distribution of forces is indeed most providential, for the organic functions must be intimately related with the nervous system as their demand is continuous and the supply must be near and abundant.

It appears, therefore, that the sympathetic system is endowed with both sensation and motion (*vasa motor*). These electric and magnetic forces are concentrated in the knots that supply the wires of nervous filaments with the requirements for their work. This blending of the two forces in the ganglia is a happy provision, thus preventing any jarring, and at the same time giving to the system a uniformity of action indispensable to physical and organic functions.

Each spongiole is endowed with a peculiar and complex function.

Every cell acts through the vivifying influence of the dynamic forces, and these are elementary—light, heat, motion, and nutrition. The great centre must receive a sufficient quantity of the vitalizing principles to enable it to supply its ganglia, the organs of special sense, and the muscular system, with nervous fluid and blood.

Every cell must move and receive nutrition and radiate force, activity, and life. It is a rotary, physical motion; receiving and giving, equilibrated harmoniously, so that the action is smooth, imperceptible, and perfect. (Co-ordination of forces.)

And is it surprising that so many are wanting in mental vigor and health? The difficulty of maintaining an equilibrium among so many physical requirements is an obvious reason for the deficiencies which so frequently occur. The influences of climate, idiosyncrasies, inheritance, predispositions, occupation, social surroundings, and education are so many strains upon the great nervous centre. Illusions, hallucinations, delusions. mental aberrations, lunacy—these mental deflections from the normal functions are often present in a greater or less degree, and are either idiopathic or symptomatic.

CLINICAL CASE I.

A young lady, twenty years old, of a nervo-lymphatic temperament, having indulged in all sorts of vagaries from her childhood to the present time. A few years ago she entered a female school. She was always very delicate and excitable.

She had complained of shortness of breath, slight cough, pain in the left side and constantly feeling exhausted or weak and trembling. Her medical attendant was puzzled, and held several consultations without much benefit to the patient.

I was requested, just about a year ago (June 15th, 1877), to go as a consulting physician to the patient, whom I found in a most miserable condition, both physically and mentally.

Physical Signs.—On percussion there was no dullness. On oral examination I found no crepitant or sibilant râles. Respiration short, expiration prolonged. No vesicular or labored respiration. Temperature rather high over the lungs ($99\text{-}\frac{\circ}{20}$ and a fraction.) Heart perfectly sound, organically and functionally; no valvular deposit or enlargement. I could find no abnormalities. Uterus sensitive. Had vaginal leucorrhea. Kidneys sound—urine profuse and white. Liver torpid. Night sweats. Mentally, she seemed a sensible girl, with the usual excitable temperament, but very taciturn. Very thin.

Semiology.—She looked emaciated, anaemic and adynæmic. She had no appetite, but was not distressed by food when taken—constipation. Her countenance denoted great exhaustion from inanition. Pulse very much enfeebled in volume and irritable in action, and small and thread-like. Flesh hot moist and very white; capillary veins full. She was very impressionable and easily affected. She sighed and moaned and looked hysterical. Hyperæsthesis was very great. Complained of pain on the left side, and had a constant, dry, hacking cough. Insomnia, apepsia and irregularity of menses. She had been sick for months and thought herself dangerously ill. Had been confined to her bed for over two months and could not walk across the room. She was indulged in every fancy. She had no vitality and no force of will.

She was completely discouraged and abandoned herself to notions and despair. I could not find any hereditary trouble, for her father and mother were healthy, strong and well-to-do people.

Etiology.—I could not find any organic disease, structural or functional; there was general torpidity of the functions of organic life, consequently the organs were under a general physical debility.

I dated her illness shortly after the time she entered school. Her retirement to close quarters after having been accustomed to fresh air and exercise had something of an influence over her. Her companions might have predisposed her to romantic notions, fanciful love and unsatisfied desires.

The uterine functions were suspended on account of the general debility, and nutrition was similarly impaired. Her whole character and idiosyncrasies were those of a hysterical girl, her disease existing in the emotional or ganglionic system. There was no indication of disease of the absorbents. The mental force had lost its equilibrium and its vigor.

Her mind was morbidly predisposed and although she was not a lunatic she was next door to it, partly through indulgence on the part of her family. And in summing up the objective and subjective symptoms we find no lesion, but a general disability, a curious phenomenon of abnormal condition, and, in my judgment, referable to mental, emotional and uterine influences.

My prognosis was unfavorable because of the state of enervation and hyperaesthesis with a want of the will and disposition to succumb to morbid notions.

Hygiene and Dietetics.—Cold water shower-baths with salt. The idea was to re-establish equilibrium of forces, physical and vital, by a shock, and a number of them continued every other day. If that should be too severe we would try sheets and sponging. Air, light, cheerful company, encouraging her to leave the bed and room.

Diet—Beef-tea, cream, clams, mutton, birds, fish, rice, oat-meal, eggs, lettuce, cocoa, wine whey, or ale. I forbade potatoes, corn, pies, candies, coffee and tea. Early rising and early retiring. In this I included change of locality and driving out.

Medical Treatment.—Nutrition here was an alternative of great importance, for she could not get enough food and nutrition to sustain the economy. Since I arrived at the conclusion that it was purely a case of adynaemia, I certainly had but to act upon that decision.

It was necessary to restore as much of the subordinate and indirect symptoms as the primary, for they were derived from the same origin.

Her hyperaesthesis was a natural consequence, but a stumbling stone to carry out certain medical treatment, to restore calmness in place of irritability. The following was my first prescription as preparatory to a more specific one:

℞. Lactucaria, 1-dec. gutt. xxx.
Aqua distill., ℥ iii.

Dose—One teaspoonful every hour till quiet and sleep were produced, followed by strong acidulated drinks, and beef-tea. In a few days she gave signs of improvement, by sleeping better; cough was better and had gained strength and cheerfulness.

Then I recommended to her attendant physician to give her

℞. Phosphorus, 6-dec. gutt. xii.
Aqua distill., ℥ ii.

The doctor reported improvement in every respect; in a few weeks she left her room and went out. For some reason the improvement did not continue and she went back to her former condition. I believe that her medical attendant was not persevering enough and that she indulged again in her favorite diet of pies and candies, and did not keep up a strict hygienic and dietetic regimen.

CLINICAL CASE II.

A maiden lady, sixty-five years old, of nervo-bilious temperament. She was an only child, and therefore very much indulged and spoiled. Her life had been that of comfort and indulgence. Her family were wealthy and disposed to enjoy the good things of the world. They were highly cultivated people, and this good lady had inherited a sensitive organization and increased it by her peculiar training.

She had met with many a sorrow and disappointment, in consequence of which she became morbid and constantly given to despondency. After the death of her parents she became an hypochondriac and closed herself in the house for a long time giving admittance to no one —even her dearest friends.

Physical Signs.—There were no indications of structural organic troubles. Lungs sound. Heart perceptibly excited by nervous influences. Liver rather large and torpid. Stomach sensitive. Kidneys healthy. Temperature normal. Pulse small and quick. Well developed; rather stout. Light eyes and complexion. Small frame. Subject to borborygmus, acidity and constipation, alternating with diarrhœa.

I found her reclining on a chair with her feet on the bed—one of her legs being shorter than the other.

Semiology.—I was called to see her in regard to an injury she had received months previous, having broken the patella by a fall on the ice. She was treated for a transverse fracture of the intertrocanteric line of the femor, which was a mistake. However, she complained of inability to stand, with pain in the knee joint. As union had taken place there was nothing to be done as to her former surgical case. She might have had an impacted fracture of the head of the femor, intercapsular of cause, with a fracture of the patella. But the perfect motion of the head, which she always had, did not denote any such injury. The shortening was due to retraction of the biceps femoris and ankilosis of the knee joint.

I found her despondent and hopeless ef being able to walk again. She related to me some of her great sorrows, amongst which, besides the loss of friends, there was loss of property. She told me in the most touching manner of her lonely life: of having lost all her relations and from affluence, beauty, social position and brilliant company, she was reduced to comparatively scanty means amongst strangers. There were indications of mental troubles. She was excessively irritable, wept easily and became uncontrollably angry at trifles. She suffered indigestion and biliary accumulations with acidities in the primae vie which altogether produced flatulency, bitterish, sour eructations–borborrygmus and at times bilious colic. She was anaemic and asthenic, but had vital force enough to supply a regiment of men. Yet she was cowardly as to pain. She was very imaginative and suspicious. Capricious and constantly changeable. Nothing could ever suit her longer than a a day or two. Constantly complaining though at times very cheerful and amusing. Hysterical. She could have felt pain in her little toe, if she only thought so.

These seeming light symptoms are of great importance to us, so as to locate the origin of the trouble. The process of digestion was generally good, considering that she was devoid of motion, air, and mental activity, thus the phenomenon of the functions of organization was partly imperfect.

In point of fact, she had a small way for the process of decomposition, and, hence reaction could but be curtailed, physico-vital forces diminished to a great degree.

The pabulum vitæ was slowly decreasing as the process of organization and re-vitalizing principles were so much decreased. The palpitation of the heart was due to a sympathetic influence, either from the stomach or from mental hallucinations.

She was a great sleeper and there was much in that that recuperated her enfeebled economy. And while at this point let me say that, physicians should pay attention to rest as a principle of cure in cases of enervation. And the rest must be complete, for weeks at a time, with a well selected diet and bathing.

Etiology.—Predisposing causes were, inheritance, education, and enervating habits. Excitement, indulgence, mental troubles, and want of physical motion and mental employment. The principal part affected was the ganglionic system.

Treatment.—She had been well directed in regard to hygiene and diet. The only medical treatment was by means of electro-magnetism. And although the ankilosis was much benefited as well as her general system, yet she set her will against any possibility of cure, so that I could never persuade her to leave her position or room; and she was fully able to go out in a carriage. I learned that the force of the will had much to do with her condition. The treatment was unsuccessful.

CLINICAL CASE III.

A woman forty-five years old had been frequently sick and was well known as an invalid. She was well developed, of a nervo lymphatic or leuco phlegmatic temperament. She had two children and was surrounded with sufficient comforts for her station in life. A woman of light complexion, blue eyes, and a large, portly frame. There was no appearance of any constitutional disease.

Her physician asked me in consultation, as he thought the case very serious indeed; I found her confined to her bed.

Semiology.—As the patient did not complain, but of general sickness, without pointing to any special organ the examination was superficial, and not as thorough as I might have liked; however enough was ascertained, to show that she had an ulceration of the neck of the uterus and uterine leucorrhea. Afterwards I ascertained the ulceration by physical examination.

I found her in a room all closed, and there was an air of the mysterious which struck me as the sublime of the ridiculous. Her medical attendant was thoroughly deceived by these fanciful appearances and cautioned me to keep very quiet. In truth, there was a consummate piece of acting going on, and I made up my mind that we had a fine case of hysteria. Her attitude, the closing and shutting of the eyelids, the long sighing and her insomnia, denoted an hysterical condition, with hyperaesthesia of the organs of generation.

After he asked how she was, she took a long sigh and answered, "Oh Doctor! I was very sick all last night. I believe I would have died, if it had not been for your medicine." Her general appearance was that of a person who had not suffered much physically. When my turn came, I asked her to open her eyes and to show me her tongue, in a civil but firm manner. Eyes were clear, and tongue white and tremulous. Pulse small and slow, indicating a want of force and volume. Urine very white and copious, specific gravity natural. She complained of palpitation and distress in the stomach. Food did not digest easily and she ate very little.

Temperature low and general debility, indicating somewhat asthma. There were no complications of the liver, and her bowels were regular, when not confined to her bed.

Mentally she was afflicted with all sorts of hallucinations. She suffered with uterine and vaginal leucorrhœa proceeding from ulceration, general debility, arising from her phlegmatic temperament.

There was great flatulency and sensibility in the ovarian regions. At times she was cold and chilly. Aphomia with a feeling of suffocation. She imagined herself a great invalid and thought that she was going to die.

She spoke in a whisper and kept the room very dark. She had paroxysms of fainting, which frightened everybody present; but the faint would disappear and leave no trace of any physical trouble. She imagined every body was talking about her and her recurring sickness.

Etiology.—This woman had been sick more or less for years, and indeed proved to be a great trial to her poor husband and friends.

Such cases are rather rare in the lower path of life. Hard work and practical knowledge of the difficulties and troubles of life keep many a woman from becoming hysterical and morbid.

I was rather perplexed to find out the cause of this condition of things on account of her sphere in life.

Her marriage to an indulgent and good husband brought about affectations and deceptions too numerous to mention. A firm, strong will on his part; or a sense of honor and duty on hers would have saved them a small fortune. As her physician left the place, she came under my care for medical treatment. The disease was hysterical and located in the ganglionic system. She cried easily, and would be taken sick at a moment's notice. Her idiosyncrasy was a tendency to ovaritis and uterine catarrh.

Hygiene and Dietetics—As indolence was one of her characteristics, I advised her to do her own washing and house-work without hiring a woman to do it for her. She was ordered walking in the open air and warm bathing. Diet: good meats and bread, leaving aside the pies and hot bread, etc.

Medical Treatment.—I took it upon myself to advise her poor husband, but I found him too weak for such an undertaking.

Nothing but a firm, kind, unflinching will could control and really cure such morbid phenomena:

℞. Belladonna 3-dec gutt. xii.
  Aqua distill. ℥o iv.

Dose—one teaspoonful every 2 hours. She got better for a few weeks, but became sick again.

I called upon her, found her in the same condition, and gave her the following remedies. Pulsatilla, ignatia, changing every week, although I had no idea of curing her. A great misfortune, the death of her husband, took place two years after I knew her, and this added to poverty and a sense of the injury she had done him, cured her completely of all her vagaries.

This will serve as an example of the many disarrangements of the digestive organs produced by morbid notions; and, what is very strange to find, such a perfect case of misanthropy in a woman in her condition of life. Had she been a lady born in affluence she could not have presented a better case of hysteria produced by the imagination. Plenty of work, good principles, instilled early in life, and a stern, just, and conscientious husband will cure most cases of hysteria.

The ulceration and hysteria were treated locally by nitrate of silver, and by

℞. Nux moscata 1-dec ʒi.
M. chart. xxx
also ℞. Borax 3-dec ʒi.
M. Chart. xxx
℞. Sepia 3-dec ʒi.
M. Chart. xxx.
℞. Moschus 3-dec gutt. xii.
Aqua distill., ℥ iv.

These were given during three weeks' attendance. She improved and got better, although she had recurring attacks.

CLINICAL CASE IV.

A young woman, twenty years old, of a bilio-nervous diathesis, dark skin, black hair and eyes, and handsomely developed. She was the mistress of a gentleman, and lived a life of ease and comfort, if such can be found in degradation and vice. When I made my first visit she was considered very ill indeed.

Physical Examination.—I found her in a state of unconsciousness. Pale and utterly lifeless. Slow breathing. Pulse very small in volume and slow in action, indicating a partial suspension of the influence of the vaso-motor nerves. Urine she passed in bed. No organic trouble of the heart or lungs could be found. Liver normal. Pupil contracted. Tongue could not be examined as her mouth was firmly closed. She had clonic spasms, when she screamed, fought and rubbed and tore herself, unless kept from it by main force. She was totally unconscious.

Semiology.—She complained before she was sick of malaise, general debility and want of appetite. She was found weeping, angry, unreasonable, and excited. This would pass off, to return again in a few days. She had chills and headache and great nausea. She became suspicious of her lover, and feared that he would soon leave her; then she would refuse eating, and fainting would occur. Her peculiar position in life, her dissipations, and mental and emotional excitement, predisposed her to nervous diseases. There were difficulties in making out a correct diagnosis, owing to the resemblance of malarious poison or of uremic metastasis. She did not improve for several days; therefore I thought it necessary to have a consultation.

The consulting gentleman saw at once in it a case of malarious poison from the malarious district of Norfolk, Va. I did not agree with him, yet I followed his advice. We gave her quinine in large doses, because he thought her life was in peril, and because we both belonged to the rational school, and must treat the case *secundum artem*, happen what may. In twenty-four hours she was worse, and had not eaten anything for nearly a week. Adynæmia was threatening. I considered it my duty to call the attention of my colleague to the pathognomonic symptoms of irritation of the vulva and the partial suspension of animation, and the internal contractile condition of every fibre, and the wonderful phenomenon of life without alimentation. I therefore concluded that those few salient points were the beacon lights of unusually intensified and hysterical conditions. He immediately assented to my opinion and changed our treatment accordingly.

Etiology.—She had lost her virtue early in life, and had been exposed to seditions, temptations, and vices ever since. Her nervo diathesis and bilious temperament predisposed her to violent paroxysms of excitement, and her diseases were mainly of a nervous character, Her over-indulgence in sexual pleasures debilitated her, and was an exciting cause of her sensitive temperament. In connection with this, we must not forget the food and drinks, which such people indulge in at late hours of the night. In conclusion, her whole tenor of life was debilitating, corrupting, and disorganizing. No wonder that her system became the prey of hyperæsthenia, enervation and exhaustion. The uterus and ovaries were peculiarly in a state of excitability, and hence hysteria. These numerous evils brought about a reflex action to the spinal nerves, medula, and brain.

Medical Treatment.—I suggested an enema of assafœtida and a little Castile soap—about two ounces. The injection was retained, and after a few hours she opened her eyes and spoke to the attendants, asking them what had occurred.

She had known nothing for two weeks. She took three injections during twenty-four hours, and beef tea, which she digested perfectly. She slept a good deal, and gave signs of twitching during her sleep, but would wake up, take her nourishment, and then go to sleep again. Her whole system was not only exhausted, but gave evidence of anæmia. On the third day we used belladonna and hyosciamus, and in a week's time she was up and about, although very feeble and nervous.

Hygiene and Dietetic.—Warm bathing every night, with salt, hard bed, no company, and a drive out in the open air. Her alimentation was composed of cocoa, cream, eggs, oatmeal, and fruits for breakfast. Dinner—roast beef, generous wine soup, mutton, chicken, and sago. Evening—cream and biscuits. She was removed into the country, where the quiet and pure air did the rest of the cure.

CHAPTER III.

GERMINATING MALARIOUS ORGANISMS AS DEVITALIZING AND DISORGANIZING CAUSES OF THE FUNCTIONS OF ORGANIC LIFE.

UNQUESTIONABLY any floating molecules arising from a process of fermentation and decomposition containing a living germ, and a force of development, as soon as they touch a fertile soil, like the human economy, the vegetative process begins at once, and proliferation extends to an unlimited degree.

They reproduce their own kind: be it torula from the vegetable ferment, or azone from animal decomposition; both are virulent, mephitic, infectious influences, often in the form of a vapor or gas.

There are vegetable decompositions whose ferment disseminate carboretted hydrogen gas, and others, sulphureted, with pestilential effects.

The animal decomposition whose ferment is azone, nitrogenous gas, or ammoniated substances, produce a variety of diseases differing from the vegetable kind. From the typhus and typhoid to the bilious, gastric fever; from the simple intermittent to the congestive pernicious fever; from light digestive difficulties to the utter disorganization of the process of chylification and nutrition.

All kinds and all forms of ailments may proceed from such morbific influences, yet the origin be the same. Dyspepsia, hepatic troubles, splenic, enteric, renal, nervous scrofulous, eruptive zymotic. Every variety of physical change is possible in malarious infections. Neuralgia, asthenia, metastasis, catarrhal, pulmonary, uterine diseases, mal-assimilation and nutrition with leucothemia and adynaemia.

Many are the ravages of these morbific floating germs, and we have just had the experience of the unfortunate South in the form of yellow fever. The Pontine marshes near Rome and the valley of Lombardy are sources of as virulent effluvial exhalations that can be found. The rice fields of Lombardy or the Carolinas predispose people to the most disorganizing diseases. Also excessive temperature and moisture produce morbid gases and dissolution of the animal economy.

The eruptive diseases are often the results of climeric influences—erysipelas, scarlet fevers, small pox, measles, eczema, etc., as also choleraic and cholera, diarrhœas and dysentery either connected with gastro-hepatic trouble or idiopathic. Even the hardihood of the peasantry has, sooner or later, to succumb to these morbific influences

In those localities on the continent, where this effluvia prevails, we find that the people suffer more or less, at certain times of the year, and when the weather is favorable to these exhalations, from many forms of diseases of the nervous system, the lymphatics and chylopoietic viscera.

A good climate, containing exhilarating oxygen and good water, with the genial atmosphere of a temperate nature is productive of longevity, cheerfulness and health; all these are derived from air, light, motion, electricity and heat: People strive to acquire wealth too quickly, and in their haste consume their energies, their happiness, and even their lives. How much better if they should seek a genial climate where the elements are superlatively conducive to health and comforts. Elementary changes and loss of their equilibrium brings about the most depressing, devitalizing and disorganizing consequences.

Paleness and cachexia are stamped upon the faces of the people who live in malarious districts. They are proverbially melancholic, losing the cheerful part of life, and a shadow of gloom overhangs their whole existence.

The gastro-hepatic and intestinal secretions become changed and give at once the alarm. During the war of the rebellion the diseases of the alimentary canal were perfectly fearful, decimating the army. (Lienteria).

The rank and file were all attacked alike. We were all subject to the same depressing and devitalizing climatic influences and had to suffer similarly.

Two great and different physical changes took place in the liver suppression and retention of the bile. The mal-assimilated food brings about an acidulous contamination in the secretions, and hence in the blood. The bile being an element extracted from the venous blood was naturally abnormal: what could be expected but crude biliary secretions. And more: when physical force has become much impaired, the functions of organic life and vitality becomes likewise crippled and lowered, and the organization is imperfect. In one case there may be retention from obstruction; in the other suppression from organic difficulty either functional or structural. There are degrees in deseases of more or less intensity. All this may be simply hepatic, or combined with trouble in the alimentary canal. It may be primary idiopathic, or secondary and symptomatic from the digestive organs.

In effluvial diseases the whole gastro-hepatic and enteric canal is generally affected. Again the spleen becomes envolved and then we find in the morbid anatomy an increase of the white corpuscles in the spleen as well as in the general circulation. The blood therefore is deteriorated and the results are well known.

CLINICAL CASE I.

During the Crimean War we learned how very limited were the good results from the rational school of medicine, and how many thousand died of a low form of lienteria or fevers.

During the American war of the rebellion, in which I was an officer, the same diseases prevailed among the soldiers, and thousands died of dysentery, diarrhœas, and chicahominy fever—a species of typhoid abdominalis.

The records show the mortality of the American Army during that war and the utter incompetency of the Rational School to compete with diseases arising from morbific gases.

I shall not attempt to say what the law of similarity would have done, but I feel sure, that many a true allopath will agree with me, that great mischief and actual harm was done by the routine practice of medical officers in the field. They used indiscriminately and most empirically about four favorite compounds, and this was done in the face of the well known failures of such a treatment.

And these were the following—

℞. Comp. Cathart. pills. U. S. P. ℞. Camph. et. opii U. S. P. ℞. Blue mass. ℞. Quinia sulph. ℞. Antimony. ℞. Tincture catechu et creta pr. ℞. Acid Tannic et chinchona etc. I shall forbear to make any comments upon this rational proceeding.

Physical Examination.—Mrs. K., twenty-seven years of age, a German woman—has one child. She was confined to her bed. On examination I found her very anaemic. Heart made a sound like that of a bellows weak and irritable. Pulse small and quick. Temperature low with a moist skin, inclined to weakening perspiration. Emaciation, exhaustion, respiration short and quick, but no disease involving the lungs could be discovered. Liver enlarged with constipation of the bowels. Tympanitis, and dropsical effusion of the lower extremities.

Semiology.—She complained of chilliness every afternoon from three o'clock until five, pyrexia, the head and face were hot and then a free, hot perspiration completed the crisis. There were regular intermissions and the signs were those of an intermittent form of fever. She was taken soon after the birth of her child and it affected her whole economy most unfavorably, being at the time, enfeebled by the process of parturition, the loss of blood, and all its concomitants.

The uterus was enlarged and tender on touch. Asthenia and adynaemia were depicted upon every feature. She lived in a small house, situated on low ground and surrounded part of the spring and fall seasons by water. They lived on greasy, innutritious and indigestible German diet. The process of chylification was defective. She was well-formed and young, but her life was gradually ebbing away. The urine was of low specific gravity. Pupils rather large and lifeless.

Etiology.—Naturally we would conclude that malaria was the main spring of the disease, yet there are other considerations which are of absolute necessity to observe. 1. Her mode of living being unhealthy and innutritious; 2. Change of climate from her native country to a debilitating malarious spot in this country. 3. Mental troubles on account of her destitution; 4. Stagnant water producing an effluvial atmosphere; 5. Want of knowledge even of the first principle of common cleanliness.

No wonder that disorganization, physical and vital, were fast ending her life.

Hygiene and Diet.—1st. Removal from the low marshy place where she was in to a high sandy soil. 2d. Bathing in alcoholic baths. She was too weak to use the wet sheet. 3d. Hard bed and airy, clean room. Diet.—Nitrogenous, with brandy and water, after meals.

Medical Treatment.—

℞. Ars. Solution, 3 dec. gutt. xxiv.
Aqua distill., ℥ ii.

Dose—one teaspoonful every hour during the intermission.

This was purposely given so as to break the paroxysm of the pyrexia and the chills, which together with the hygiene and diet succeeded admirably. I followed by

℞. Ferrum phosphatis 3-dec grs., xxxvi.
M. Chart. xvi.

Dose—one powder every three hours. I continued the diet. The progress of the disease was checked and a change in the quality of the iron was advisable.

℞. Ferrum Peroxidum 1 dec gr., xl.
M. chart xxx.

Dose—one powder four times a day. In the course of two months the woman was well.

CLINICAL CASE II.

A young girl of nineteen summers, perfectly healthy, became suddenly affected with facial paralysis. She did not give the usual signs of neurosis either from anæmia or toxymia, nevertheless she woke up one morning with a crooked mouth.

Physical Examination.—Pupil normal. No pain in the spinal column on percussion. Locomotion perfect. Digestive organs in a healthy condition. Heart and lungs sound. And with all these favorable signs she was emaciated, anæmic and extraordinarily weak. Something was destroying the nervous force and the blood. She digested food but did not assimilate it. There was a sort of mechanical function going on without the power of organization.

Semiology.—There is a negative diagnosis which is often as important as the symptoms usually traced out. The absence of neuro-phlogosis objectively was remarkable—no pain, no heat, no swelling; only distortion. There was a tonic contraction of the muscles of the face caused by an affection of the fifth pair of nerves.

On further examination it was found that perfect anæsthesia of the whole left side of the face existed. No further trouble took place; it was confined to the face.

Etiology.—The cause was traced to night exposure in the malarious regions of Jersey City.

Hygiene and Diet.—Removal from Jersey City for a few weeks into the country. Bathing in warm salted water every night. Nitrogenous food and good port wine at dinner.

Medical Treatment.—Electro-magnetic current was passed over the medulla oblongata and branches of the fifth pair. In four weeks she was well. She took ℞. Nux vom: 3-dec ten pellets every four hours.

The idea that miasmatic and infectious poisons produce a great number of different maladies is correct.

And this is according to experience and science. The vital force is suddenly struck down before the physical force and functions are affected. These effluvial poisons demolish, as it were, the correlation of the animal economy. When these exhalations are of a mild degree of morbidity there are lighter forms of diseases. Moisture and carburated hydrogen produce catarrhal affections, bronchitis, conjunctivitis, catarrhal pneumonia, phlegmasie of the bladder and kidneys and the like.

CLINICAL CASES III–IV.

Not long ago I was sent for to see a gentleman forty-five years old, and his son of about nineteen. Both were suffering intensely from gastro-enteric troubles. They were recent cases, and the result of night exposure.

Physical Examinations.—The stomach and abdomen were inflated, and both tender to the touch. Urine scanty and deep yellow. Emesis troubled them frequently, and the properties of the matter ejected were watery, sour and bitter. Evidently it contained gastric and biliary substances. The fæces contained carbureted hydrogen, and at times were very fetid, indicating a change into a sulphurated or nitrogenous undigested matter. The bile was retained, hence the abnormal fæces.

Semiology.—Although both had nausea, a feeling of distress and emptiness in the stomach, with pain in the small intestines, and gas, the father's symptoms were more intensified. He had a febricula, great exhaustion, and pyrexia of the cerebrum. The son had no fever, no pyrexia cerebralis, and not even the same gastric exhaustive feeling.

They could eat nothing, although they had a desire for food. They were very weak; and the tongue was slimy, and yellowish in the centre. Tympanitis, borborygmus, and pain. Drowsiness; face pale, and eyes denoting general debility. They had from four to six passages of watery dirty fæces every three hours. During the intermissions they felt no better, and experienced no relief from the evacuations.

Etiology.—They were exposed to a south-east wind, full of moisture and nitrogen, and to exhalations from a wet, spongy soil, with a growing vegetation. It struck them in the gastro-enteric regions, and the consequence was just what is described above. Had the vegetation been on its decline, the vegetable decay would have added much more poison to the air, and both or one of them might have had typhus or typhoid fever. Had it been a paludal soil, instead of the rocky, the alluvial malaria would have struck them down with gastro-enteric fever, typhoid, pernicious, or intermittent fever.

Hygiene and Diet.—I ordered a small wood fire in the house, complete rest, etc. Diet—beef tea, a small quantity of solid food, and burnt brandy, with toast. Rice, and rice water to drink.

Medical Treatment.—

℞. Ipecac. 3-dec. grs. xxx or ℈j.
M. chart. xv.
℞. Mercurius alkalizat. 3-dec. grs. xxx or ℈j.
M. chart. xv.

Dose—One powder every two hours each.

They improved to a certain extent; they had, at longer intervals, however, the same copious choleraic evacuations, with nausea.

On the second day I ordered to the son—

℞. Podophylum, 3-dec. grs. xxx.

Dose—M. chart. xv.

℞. Lycopodium, 3-dec. gutt. xii.
Aqua distill. ℥ ii.

Dose—One teaspoonful every hour during the day, alternately with the powders.

To the father I prescribed otherwise, for he had somewhat different symptoms.

℞. Byronia alba, 3-dec. ʒ ii. (vial).
—In pellets.

Dose—Six pellets every hour.

℞. Mercur. alkal., 3-dec. ʒ sj or xxx.
M. chart. xx.

Dose—One powder every hour alternately with pellets.

On the fourth day I gave them

℞. Camphor, 3-dec. pellets ʒ ii. (vial).

Dose—Ten pellets every hour or two accordingly.

I must remark here that the given podophylum to the young man had the desired effect, i. e., it decreased the evacuations and increased the biliary secretions so that he was free from borborygmus and pain. It was truly homœopathic in its pathogenesis and quantity. (See symptoms.)

In the case of the old gentleman I finished the treatment with nux vomica and arsenic in order to relieve the great depression of the gastric nerve and change the enteric trouble. The, feeling of a distressing emptiness was unmistakably caused by nervous exhaustion.

It is well known that exhalations have some pathognomonic characteristics according to the nature of the gas afloat. The often used terms "malaria" and "infection" are synonymous when applied to a condition of a poisonous atmosphere.

A damp, cloudy air will chill the body by absorbing the heat from it. Hot, dry air excites pyrexia and phlogosis, either general or local, objective or subjective. But the hot, moist air has the most depressing and destructive influences of all. From the latter we have hepatic, abdominal, and low forms of disease of a pernicious, malignant type. It favors yellow fever. In India and South America the most malignant forms of disease exist, e. g., yellow fever, cholera, small pox, and other zymotic diseases. The contrary is to be found in Russia and Japan: there the diseases have a tendency to disorganize by the slow asthenic process. The same in Scotland, England, the Low Countries, etc. In contradiction to this we observe very different effects from mountainous, cold, dry air where the oxygen abounds and the depressing carboniferous elements are at the minimum.

The study of climatology is an indispensable item to all physicians; for the knowledge of the peculiarities of certain climates give us the key to many causes of the diseases existing. From this knowledge we learn whether we live in a stimulating or depressing atmosphere; in oxygen or in carbon; in sulphurated or carburated atmosphere; in hydrogen, or in mephitic exhalations of animal decay. This makes us quickly perceive the supplies needed under the various circumstances.

Nothing is of greater importance than the knowledge of the food, hygiene and clothing necessary under the different vicissitudes of life.

The highly nitrogenous diet of the English would not do well with the mild climate of Italy, or the hot countries of India and South America. The carboniferous diet of the Russians and inhabitants of Switzerland would not answer well in the United States of America.

I endeavour to recommend the law of Similarity in hygiene—i. e., cold water in cold countries; warm baths in warm countries. Cold apartments in a cold climate (60 to 65) would be healthier and less dangerous than in that of 75 to 80 degrees. Generally we accept it for granted that by keeping in the warmth in winter and the cold in summer, we are obtaining the comforts of life, and we seek no further proof than that of our immediate satisfied sensations.

The general disregard of the principles of the elementary science, which guides our physical and vital forces, and more, all our physiological organization, is undoubtedly one of the great causes of a large number of premature deaths.

CHAPTER IV.

PHYSICAL AND MENTAL LABOR.

MECHANICAL work is followed by a renewal of forces, physical and vital. Composition and decomposition go on in a perfect reciprocal relation; the waste and supply must, in a normal condition, be even.

The organizing process, also, must perform its vitalizing functions by assimilation, and by it nutrition becomes feasible and complete.

All physicists have observed the immediate relation of mechanical force with physico-vital force, and that mental activity, motion and labor are indispensable to their growth.

We find this law well illustrated in the animals and vegetables. The motion of the sap is simply physical, because it has only to supply growth or vegetable development. In animals we have more—i. e., a variety of co-ordinate forces and correlative functions continuously going on for the equilibrium of the complex phenomena of organic life.

Minerals possess the power of cohesion and affinity. There is an elementary force which is the basis of mineral formations, and its constituents are also elementary. No mineral formation could be possible without elementary constituents and force. We receive certain supplies from both, without them animal life would be equally impossible.

The velocity of light, sound and electricity is far more rapid than the current of the blood or that of nervous force.

Electricity being produced by the process of chemical and elementary decomposition, the action of attraction and repulsion is the natural condition of elementary disturbance and disintegration.

The oxygen runs from copper to zinc, and after the molecules of oxygen have been exhausted therefrom, they are attracted, or rather repelled, and return to whence they came, to receive a new supply of oxygen, and then are expelled by repulsion, and go back again to the negative pole.

The wind moves from a balmy air into a velocity of sixty miles an hour; it cools the earth, it forms currents which are either cold or hot; giving us fair weather, rain or snow. It absorbs the moisture of the earth and carries with it either health or disease. Even the sea is excited by grand storms, and large fleets are thus carried to their destinations.

All things move and live. Even the force of cohesion is a motion, produced by affinity and attraction of homogenous bodies. Physical motion is found in this law—endosmosis is a process induced by affinity and capillary attraction; and exosmosis after the parts have received their nutrition. This is a general physical law.

These few illustrations are taken in order to give more force to the argument.

Motion then is a sine qua non of existence. Electro-magnetism, positive and negative, exists in the molecules of the human organism. This force is static and strictly connected with the other forces. It is increased or diminished in accordance with the others. Motion, light, air and elementary electricity set them all in action, and develope them to an incredible extent. In this way the current of the blood, mental vigor, physical and vital forces are stimulated and renewed. But when the equilibrium of this physical combination is by some accidental reason lost, the physiological functions of the animal economy become gradually disarranged, losing the organizing force—hence inanition and decay.

There is a necessary uniformity of action in these formative agencies, without which no physical law can be possible, and no animal organization could be attained.

It is then of paramount importance that activity, mechanical as well as physical, should be promoted as a great element of organization and decomposition.

Action and reaction cannot well take place without it; and assimilation, nutrition, growth and force, must descend step by step until the organic functions cease altogether, or in a measure, in order to supply the general economy with their support.

The principles of vital force are static, as has been said, in the matter itself, and they only need a momentum in order to throw the whole economy into a natural activity and develop its resources.

1. Exercise mechanically the muscular system, and then stimulate organic activity by air, light, heat and motion.

2. Develop by proper occupation the mental faculties, and the result will be health, abundant and unceasing, and longevity.

The truth that elementary forces are indispensable to the process of animal life is undeniable. Physical without, vital within. The mental force is derived from the general physical phenomena, and is a correlation of all the forces. It is a third agency, higher in its source, differing from and greater than all the others. It might be said that it touches the acme of spirituality; and its growth and progress are similar to the first principle, i. e., the mineral. From a mere elementary substance, from the smallest nucleus, springs this great volcanic fountain.

As the highest condition of vegetable decomposition is alcohol, a spirit, a force which is capable of organizing and disorganizing; so is the mind spirit-like, the ethereal substance of animal life.

Let the mind remain inert and it will retrograde into a state of sluggishness; just as activity will make it progressive and strong. In the first instance, it becomes dwarfed and defective in every way. In the latter case, by proper culture, it develops into beautiful harmony, and is capable of ascending to the highest pinnacle of glory and greatness.

The employment of the mind and especially the organs of sense is a physiological condition, conducive to a higher development, and necessary to retain force and identity.

The first motion of a child is automatic, but from that to the first step, the development of both body and mind, is marvelous. The first condition is simply mechanical. The first step is endowed with the force of the will (mental development).

And the next step is firmer and quicker and the physico-vital forces go on abreast with the general development of the economy.

When the age of action arrives we must obey these laws in a modified and sensible way. From employment in the open air, we obtain three great agencies which are: oxygen, hydrogen and nitrogen; and from decomposition we disengage, carbonic and lactic acids, ammonia and phosphates.

A simple, brisk walk promotes organic action, assimilation, and nutrition, and by means of decomposition, organization goes on *pari-passu*.

In order to demonstrate the physical conditions and agencies required in the accomplishment of a thorough physiological action, we have taken air, motion, light, heat, electricity, as so many factors of life giving agents and when these are united with the proper nutrients and water, the elementary principles of life are complete. The gastric acid and peptones become thoroughly organized, the absorbents act promptly, and the secretions of the chylopoeitic viscera continue their functions until they reach the final stage of organization by being formed into blood and tissue. Likewise, the secernents select the calorificients for the necessary process of heat and combustion.

In conclusion, mechanical, elementary and vital forces form the great combination of physiological activity. But an opposite condition of things present to us another series of phenomena which are called pathological diseases, being the natural result of a deviation from the physiological process already demonstrated.

The terms struma, or scrofula, indicate the idea of an abnormal condition, of some kind, of the lymphatic system. This peculiar organization composes the whole glandular apparatus of the animal economy.

All the functions of absorption and secretion are performed extensively by the lymphatics. The mucus follicles of the stomach and the secreting patches of Payer and Brunner's glands are all lymphatic glands whose functions are to assimilate and vitalize albuminoids fats, fibrin and blood.

There are glands in the bronchi, in the lungs, in the mouth, and under the skin; everywhere we find in greater or lesser degree, in number and size, a glandular apparatus. This is a complex system, having the greatest influence upon nutrition and life itself.

Motion increases lymphatic activity, absorption, secretion, and organic functions complete the physical metamorphosis.

The effete materials must be eliminated by the excretions and removed entirely from the system in the form of carbonic acids, bile, urea, phosphates, ammonia, lactic acids, and sulphurated substances. The elements of nutrition must move on from stage to stage; from the primary to the ultimate condition of complete organization. From defective nutrition we get defective forms; and from an imperfect protein compound arises an abnormal organization, and then a cacoplastic formation invariably takes place in some of the organs, often infesting the whole economy.

Having ascertained that motion, or labor, is a physical necessity and a paramount physiological law of organization, we shall now study carefully and logically the process and results of this law.

Statistics prove beyond doubt that those who live in the country and labor in the fields, are generally in the enjoyment of better health and constitutions than those who live in cities. Longevity is certainly in their favor. But it must not be overlooked however that other factors are of great usefulness in the general result of the above statement, viz,—air, light, heat electricity; also simplicity of living and regularity of habits are all conducive to a healthful condition. Excitement, physical and mental, late hours, excessive drinking and tobacco, and rich food are predisposing and exciting causes to various diseases. From these sources we trace sthenic and asthenic maladies of different type and nature; complicated, or iodiopathic, as the case may be. A perverted plasma and unassimilated lymph or albuminoids, produce lymphatic derangements; crude lymph brings about physiological and physical abnormalities like adenitis, lymphitis, tuberculosis, etc. Physical and mental inertia is an abnormal condition, having a tendency of devitalizing the forces as well as extraordinary great labor. All things are well that are wisely conducted; all excesses are deleterious.

1. Every physician has met with cases that are not only difficult to treat, but very often embarrassing and unsuccessful; these are generally morbid mental disorders.

The hysteria prevailing among the fashionable ladies, and the hypochondria of the idle man, are, surely, evidences of diseases produced by mental inertia. For these there is only one remedy, viz.: work or occupation from morning till night. And in speaking of occupation in this sense, it is meant as a process of cure, a natural, logical and unfailing means always to be found in some department and pursuit in life. The lady whose education and position have placed her beyond the drudgeries of mere mechanical labor, could not reasonably be expected to find pleasure and health in a hard manual employment.

And so, *vice versa*, the hard working woman could not follow an intellectual pursuit with either pleasure or success. The day is not far distant, however, when mental diseases (dementia cerebralis) will be treated on physiological principles; while the blistering and bleeding; the narcotics and antispasmodics, which have been so freely and unadvisedly used by the dominant school, will only be looked upon as barbarous practices and as decidedly injurious.

2. It is already thought that the law of similarity, in mental diseases, is *par excellence* the true theory of cure. This law of similarity is not limited to the morbid influence of medical agents, but extends to physiological means, or a natural mode of cure: as music, singing, reading, cheerful company; and finally, the influence of a strong healthful mind upon a weak derelict one, which is an instrumentality serving for the stimulation of those elements which require to be gently acted upon through a mental agency.

The said two forces, one mechanical, the other psychological, are indeed intended to be mutually related. "A healthy mind in a healthy body." Labor must therefore be considered under two conditions: mechanically as a promoter of force and health, and mentally as a developing necessity to keep a mind healthy. Any deflection from these rules is truly unphysiological and devitalizing.

CLINICAL CASE I.

A young lady twenty-one years of age, of a lympho-phlegmatic temperament, had become taciturn, and suffered with general vital depression. There were no indications of any particular physical disturbance. Her relatives were apprehensive as to her condition, believing that she was on the road to physical decline. She was German, and had no inheritance of cachexia of any kind. She was suffering with a constant nervous cough, want of appetite, great prostration and insomnia.

Physical Examination.—Irregular rhythmical movements of the heart, entirely of a nervous type. No organic disease could be detected. The lungs were evidently in a normal condition, both on auscultation and percussion, yet there was a mucus râle entirely laryngo-bronchial: She raised a white, tough mucus, having no purulency with it.

The liver was torpid, kidneys sensitive, and the urine of a light specific gravity and color. The triplo-phosphates were not sufficiently eliminated, denoting a want of physical activity. Her physical development was good; her stomach and bowels were disarranged, but with no pain or organic difficulty. She worked in an india-rubber factory where ventilation was imperfect.

Semiology.—The patient was very nervous, and suffered with the globus hystericus. She had lost her appetite and did not rest at night.

She had lost some flesh and energy, and became somewhat morbid, imagining all sorts of things. Her cough not only disturbed her, being nervous, but irritated the larynx, and kept up agitation of the mind. There was no nausea, but great depression of mind caused by a general vital debility. Pulse eighty to the minute, and quite irregular. There were indications of hyperaesthesis with asthenia. The chylopoietic viscera did not assimilate enough food for the needed supply, in consequence of which she was on the threshhold of anaemia.

Her voice was weak, her ideas slow, and she would cry at the slightest provocation, and loved to be alone. She had no desires or morbid appetites.

She was an enigma, constantly complaining of a general lassitude, with an irritating and annoying cough. She had flushes of heat, and was chilly afterwards. The least thing frightened her; and she complained of short breathing and palpitation. The digestion was slow, but not abnormal in any of its functions. The biliary torpidity, with a partial sluggishness of organic action, was due to the general condition of the system. She was too weak to work in the debilitating atmosphere of the factory.

Etiology.—The three great agencies—physical, vital, and mental—forming the great organic functions, were temporarily disordered, and thus the entire functions of organization were partially altered.

As I have said before, I could not trace any constitutional defect, either inherited or acquired. The trouble, undoubtedly, was idiopathic, symptomatic, and without any structural organic disease.

She was not emotional—in fact, she was wholly wanting in this respect. Her affections were not at all involved by love or disappointment. There were no causes for ambition or aspiration; so that there were no traces of mental predisposition.

In going further, the suggestive suspicion of an impure atmosphere should not be lightly considered. This, with other predisposing conditions—such as confinement in close quarters, standing in one position, hot rooms in winter with an artificial moisture (steam), and, again, irregular meals and insufficient rest, turned the organic functions from their normality.

These are the only causes which we can account as the true factors of the loss of physico-vital equilibrium.

In analyzing this short etiological review, we soon perceive that a depressing hot atmosphere, gases of sulphurated hydrogen, and mercurial preparations, which are connected with rubber making, crowded rooms and constant moisture, were quite sufficient cause to produce a physico-vital change, by slowly poisoning the very foundation of life.

The extraordinary surroundings with which this girl was obliged to live were such, that disorganization would have taken place sooner or later in some form.

And we know by experience how many structural diseases these poor factory people are subjected to in all departments, and even under the best sanitary regulations. She had a good home and country air, two elements of protection.

Medical Treatment.—In this case want of mechanical activity was not the cause, but rather a poisonous atmosphere which pervaded her whole economy. And this will prove that diseases may be very similar, while proceeding from a different origin.

℞. Belladonna, 3-dec. gutt. xii.
Aqua distill., ℥ ii., and
℞. Aloes 3-dec. ʒ i.
M. chart. xx.

Dose—One teaspoonful every two hours alternately; beef tea and milk, with brandy, as nutrients and easy of digestion. I called on the fourth day, and although she was somewhat better, the trouble was still there. I prescribed

℞. Pulsatilla, 3-dec. gutt. xii.
Aqua font. ℥ iii.
℞. Bryonia alb. 3-dec. gutt. xii.
Aqua distill., ℥ ii.

Dose—One teaspoonful every hour alternately; and ordered rare beef, mutton, clams, cocoa, and eggs. On the eighth day I returned and found her about the same. I ordered the following:

℞. Potass. Bromidi, 1-dec. ʒ i.
M. chart. xx.
℞. Ferrum phosph. 3-dec. ʒ i.
M. chart. xx.

Dose—One powder every two hours alternately, with bathing in salt and water; sherry wine after eating. I continued this treatment for a week, at the end of which the cough had ceased and the secretions become natural. Her sleep returned, and she was thus restored to health.

CLINICAL CASE II.

A married lady of thirty-five years of age sent for me in haste desiring my advice professionally. She was out of health and did not know what was the cause. She was intelligent, had all the comforts she wished for, and yet her health was failing.

Physical Examination.—Her general appearance was good; both lungs and heart were sound. The digestion was imperfect: the secretions were acidulous. She had leucorrhea. Kidneys were acting normally and the liver was organically sound, but functionally disturbed, and its secretions abnormal. Physically she was delicate and lightly built.

Semiology.—She was pale, movements were feeble and pulse slow, irritable and asthenic; she slept badly, having horrible dreams. She had lost all her former interest in domestic duties.

She had apparently lost flesh; her strength was failing her; noise, or even talking would annoy her. She suffered with eructations and looseness of the bowels. Chylification was imperfect, and the intestinal digestion gave her a good deal of uneasiness.

Chilliness and trembling, and coated tongue with white fur. She was distressed more mentally than physically.

She relinquished all social pleasures and considered herself an incurable invalid. And yet all the organs were structurally sound, with, of course, a degree of abnormality in their functions alone. There was an asthenic condition of the brain threatening dementia, hallucinations or delusions, with great prostration. These were symptoms of a serious character.

In examining the case we find the secretions to be changed, and hence tissue changes must follow. Physical or rather physiological change, brought about conditions of vital disorder which reflected an influence upon the brain. The physical debility from chylopoietic disturbance had brought on a mental irritability and debility through want of nutrition. There is a great necessity of making a correct differential diagnosis in these complicated cases, because that determines the whole treatment. The great variety of mental disturbances and their similarity render diagnoses difficult and complex.

There are simple irritabilities from nervous excitement, with perfect nutrition; and there are irritabilities and debilities, produced by a plethoric condition and others by anaemia and asthenia. In these cases the most skillful physician may err in judgment.

Etiology.—We have to consider: 1. inheritance; 2. education and acquired habits; 3. constitution; 4. mental and emotional disposition; 5. social manner of living; 6. organic torpidity.

There was no taint of inherited mental disease. The second point had something to do with her physical want of development, because of indulgence in so-called comforts; and this includes the third point, viz., the constitution. The fourth point is a matter of consideration, as there was a predisposition to mental excitement and emotional paroxysms. The fifth was an exciting cause, and the digestive disarrangement was the physiological and primary caūse. These agencies diminished the general tone of her system, and were eminently devitalizing.

The education and habits are either conducive to health or disease, and those indulged in by her when a child fostered a physical debility, which was followed by enfeebled functions of organization. This gives us, also, the true microscopic light of the causes of mental and emotional symptoms.

These two cases are at variance as to the origin of the illness, but the symptoms and general effects are very similar; only the former was more subject to treatment than the latter; and it is well to notice that diseases proceeding from indulgence in vice are less amenable to medical influences, and are often entirely beyond the scope of therapeutics.

Here there are the antipodes. The first case a poor working girl, whose lot had compelled her to work, knowing no rest and no comforts. The other, a lady of leisure, and surrounded by luxuries, indulging herself in fancies, emotions, and dreams, until her system became morbidly affected; and, strange to say, the same results, viz., mal-assimilation, irritability, inanition, and hyperæsthesis, were in both cases strongly marked.

And although the symptoms were alike, the fountain whence they came being different, the treatment—not only therapeutical, but also hygienic and dietetic—must be different. The two cases came, as we have seen, from a dissimilar source; consequently, the treatment must be essentially opposite.

In the first instance the patient required merely physical rest, nutritious food, wines, amusements, cheerful company, activity of the mind, etc., with invigorating agents and soothing medicines, to re-habilitate the system to regain its physical equilibrium.

In the second case we must look more at physical and elementary aid than either hygienic or therapeutical. Physical motion and mental rest. Exposure to all weather, if well protected from taking cold. Simple, nourishing diet, but no stimulants. No amusements appealing to the senses; no social excitement; air, light, work, heat, and mental quietude. This can only be secured in the country, and a permanent cure obtained by a long residence and physical employment there.

Forbade her all stimulants and all emotions. The first patient, on the contrary, required stimulants, rich diet, and mental activity.

In the former instance the disturbance was mephitic, over-action, and poor diet; in the latter, want of physical action, mental hallucination, morbid desires, and dietetic indulgence. In the first the physical force was overworked and the vital poisoned; in the second the mental and emotional forces were intensified to the highest degree at the expense of the physical.

Hygiene and Dietetics.—In this latter case there was little to suggest as to hygiene, for she bathed frequently and used precautions which were well known to her. Yet there were some things that she neglected, e. g. early hours and exercise, which were at once recommended. Her diet was changed for a simple beef-soup strained and roast beef or mutton. Eggs, bread, cocoa, fish, cream, lentils, peas, tomatoes, etc. Potatoes and rich pastry, or hot bread and cakes were forbidden.

She was ordered early hours and exercise. She was sent into the country and reported every week.

Medical Treatment.—The difference between these two cases was this: one had exhausted vitality, and physical debility was brought about by those unavoidable circumstances following poverty, hard labor and insufficiency of repair; the other was exhaustion by those agencies which produce disorganization of the phenomena of life and of those physiological metamorphoses that are indispensable to the process of vis vitæ and the pabulum vitæ.

Therefore in the second instance the following therapeutical treatment was considered necessary:

℞ Pepsine ʒ i.
    Acid Hydroch: gutt. xx.
    Aqua bulient ℥ iv.
℞ Lactucaria 3-dec. gutt. xxx.
    Aqua distill., ℥ ii.

Dose.—One tea-spoon of lactucaria every hour during the day; and the digestive remedy—one tea-spoonful before meals so as to aid the chyme in organizing. I saw the patient four days after and I was pleased to find an improvement.

I continued by giving her

℞. Pulsatilla 3-dec., gutt. xxx.
 Aqua distill., ℥ iii.

And pepsine the same.

On the tenth day I found that she was doing well but that insomnia and irritability existed in the brain.

I prescribed:

℞. Phosph., 6-dec., gutt. xx.
 Aqua distill., ℥ ii. And
℞. Ferrum phosph., 3-dec., ʒ i.
 M. chart. xii.

Dose.—One tea-spoonful of the liquid alternately with the powders.

I continued this treatment for ten days longer making twenty days of medical treatment: she was so much restored that I considered that exercise, open air, and complete mental rest would accomplish the remainder.

Supposing I had treated this case with cathartics and opium, or with antispasmodics and stimulants? Could those remedies supply an exhausted constitution? Had I treated her symptomologically alone, without the proper knowledge of the pathognomonic symptoms of her disease I should have treated headaches, leucorrhoea, chilliness, constipation, trembling, insomnia, ill-humor, weeping, and a myriad of secondary symptoms, omitting altogether the primary causes.

I considered it logic to supply those elementary principles of physical force which she so much needed.

I also considered it right and proper to supply an ingredient that would help the process of chymification, thus rendering digestion easy and perfecting assimilation. It was also necessary to take into due consideration the asthenic and anaemic condition of the patient as being the result of this general disarrangement, and supplying phosphorus and iron to the devitalized corpuscles of the blood. And had she continued under my treatment, I should have given her magnesia, phosph., natrum phosph. and kali chloridi in order to supply alkalinity to the plastic force.

CLINICAL CASE III.

I desire to show clinically, that we are all predisposed to diseases peculiar to climate, seasons, food, mode of living, occupation, correspondingly with diathesis and idiosyncrasis.

Physical Examination.—A young woman twenty-eight years of age, of a bilious lymphatic temperament and subject to pituitous secretions, which denoted a constitutional weakness.

Her physical development was good, her lungs were sound, heart regular but feeble, radial pulse, weak and small in volume. She presented an anaemic condition. Uterus tender on pressure, menses scanty and colorless, liver tender and enlarged, stomach painful, bowels tympanitic and kidneys irritable. Asthenia was apparent with apepsia and insomnia. Great mental depression; and the pallor of her face denoted a peculiar want of vitality and plastic force (Adynaemia).

Semiology.—This woman was a sewing mistress and employed her machine constantly. She was confined in small quarters, and in the winter, in hot rooms.

Her business required her to go out frequently to sew for families; and she naturally found a great variety of cooking and food; this predisposed her to dyspeptic or rather digestive troubles.

She was fond of coffee and tea which no doubt she drank to excess. Her complexion had changed from a bright rosy color to a greenish yellow. She became easily exhausted. Her stomach felt uncomfortable and sensitive. She had intestinal borborysms with constipation. Gaseous eructations, sometimes acidulated, sometimes bitterish, of a sulphurated nature or (nitrogenous)

The papillae of her tongue were prominent and aptheous patches were seen here and there. She suffered with head-aches and pain in the back; with nausea and general malaise. Her physician (a rational of the old school) employed evacuants or cathartic doses of drugs in order to remove the crudities in the intestinal canal or irritating materie-morbi, which treatment was not curative, but, on the contrary, unscientific and empirical, producing a physical debility of the enteric organs. He succeeded admirably in producing constipation and irritability of mucous membranes, and exhaustion of the splanchic nerves, and thus she was constantly prone to relapses and repetitions of the troubles.

Her mental condition was no better than the physical. She had fears and delusions of the most ridiculous kind. She had nervous prostration in the morning. She had no appetite or desire for any kind of food. Urine was scanty (specific gravity 1030) and had an ammoniated sweetish odor, with foam (fermenting), and a white crystalized sediment stuck to the vessel, which proved to be urate of ammonia.

She was often dejected and wept without much cause. Her nervous system gave evidences of great want of nutrition and hence force; she had lost control of herself; her emotional senses ran away, as it were, like a watch without the balance wheel.

The physician in attendance, a true allopath, told her she had a uterine disease, which unwise prognostication frightened the patient into an hysterical condition.

It is true that there was an hyperaemic condition of the uterus and ovaries, as there was an irritability of the absorbents and acidulated secretions; but certainly there must be a wide difference, I venture to say, between hyperaemia and phlogosis, as between irritability and structural diseases of the organs.

The exaggeration of the disease and the unguarded diagnosis given, without the least pathognomonic lesion to bear out the Doctor's diagnosis, produced unnecessary alarm, and misguided treatment.

The exciting cause, I must acknowledge, was strongly in favor of a uterine trouble, but it was surely a simple case of irritability caused by constant treading upon the sewing machine, and this irritability, (from motion,) caused a hyperaesthesia and hyperaemia of the uterus and ovaries. These were the predisposing causes: Confinement, want of air, and stimulating, indigestible diet. The treading on the machine, was the exciting and most direct cause. There were no physical remote causes of inheritance. The etiology of the case was sufficient to show no organic lesion.

There was no pain indicating an inflammatory condition of either the uterus or ovaries; there was no fever; none of the pathognomonic signs of uterine perimetritis. In its place I found asthenia, a running down of the physico-vital forces, anaemia and inanition bordering on typhoid fever. She was cold and anaemic, with irritability of the kidneys, as well as the uterus; she could not stand on her feet without feeling a dragging down sensation of the ligaments of the uterus.

Her food disagreed with her, having evidently an enfeebled gastric juice and peptones, hence a want of proper chymification. Her head-aches, hepatic engorgement and gastro-enteric disorder, were all consonant with the abnormal functions of digestion.

The lympho-phlegmatic temperament was a physical fault, which predisposed her to catarrhal diseases, pelvis cellulitis, follicular leucorrhea, lienteria, follicular dyspepsia; glandular diseases, tumors, polypus, ulcerations, etc., and tc all forms of asthenic diseases.

And from what has been said, we can, surely, detect with sufficient accuracy these functional, organic and general disorders.

I failed to appreciate the diagnosis of my learned *confrère* as all the physical and vital signs of this case were those of debility, apepsia and anaemia.

Etiology.—Summing up our case's generalities, it is, I would venture to say, one of common occurrence among the poor sewing women of all countries. It is one of those well authenticated abnormalities of the digestive organs.

In conclusion, the symptoms were pathognomonically those of progressive asthenia, involving all the functions of organic life—the blood, the correlation of forces, and the organic structure and functions.

1. Irregularities in the hours of eating and rest. 2. A great variety of food. 3. Sedentary occupation depriving her of physical exercise, air, light, and hence physiological metamorphosis; the organs and their functions remaining in a semi-state of inertia. 4. Posture by bending the body over the stomach and uterus. 5. Strong coffee, tea and spices. 6. Constant worry and disappointment. The pathological conditions therefore were general or systematic, functionally organic (not structural) and a physical predisposition to morbid growths and pituitous secretions with hyperlymphoma, and lymphatic diseases generally.

Hygiene and Dietetics.—Doctor Chambers' treatment by tonics and alternatives would have sadly failed alone. Similia also would have been of little or only temporary help without the adjuvants of the law of hygiene and nutrition. The system was to be re-invigorated so that the recuperative power of nature could be re-established on the proper principle of organic force. Organization cannot be re-established by medicines alone. It is well demonstrated that dynamical forces depend upon a unity of agencies in order to form organic life.

I ordered warm salt water baths every other night.

Perfect rest in a recumbent position and quiet in the room, except the cheerfulness necessary in every sick chamber.

Diet: beef-tea, oysters, clam soup, wine soup, brandy with her food, eggs, game, etc.; all nitrogenous food. And as soon as she was able I sent her in the country for fresh air, exercise and simple food. Coffee and tea were forbidden.

Medical Treatment.—I consider belladonna as a great vital invigorator, stimulating glandular functions and organic action. I therefore prescribed

℞. Belladonna, 3-dec. gutt. xl.
Aqua distill., ℥ iv.
℞. Podophyl., 3-dec. ʒ i.
M. chart., xxx.

Dose—one teaspoonful of the Belladonna and one powder every hour alternately.

I called on the third day and found her urine clearer, complexion better, pulse fuller, and less tenderness in the stomach, bowels and uterus. I continued the treatment. On the sixth day she was decidedly better. I could see the influence of the proper dietetics upon the blood, yet her appetite and bowels were not sufficiently improving so as to keep on with the treatment. Changed for

℞. Quinia sulphas, 3-dec. ʒ sj.
M. chart., xxx.
℞. Aloes, 3-dec. ʒ i.
M. chart., xxx.

Dose—one powder ever two hours alternately. And now to justify this prescription, I would refer to the pathogenesis of quinia upon the liver and spleen, and upon the caeliac plexus of nerves and hence portal circulation. The second, or aloes, hardly needs any pathogenetic explanation, for every homœopathic physician understands the relation of the pathogenesis of this drug to hepatic torpidity and uterus.

The patient improved. The liver acted under the effect of the above agents, and the bowels and stomach became invigorated by the dynamic force imparted by the quinia. I consider this drug well chosen for all diseases of the chylopoeitic viscera, bilious and splenic troubles, and that it is only through the law of similarity that this great object is obtained.

I finished the treatment with phosphorus and ferrum oxydum, the third trituration. I used, also, secalæ corn. and actea racemosa, with hot applications to the uterus.

℞. Secalæ corn., 3-dec. gutt. lx.
Aqua distill., ℥ ii.
℞. Phosph., 6-dec. gutt. lx.
Aqua distill., ℥ ii.
℞. Ferrum peroxid., 3-dec. grs. lx.

Dose—one powder every two hours alternately with the secalae.

℞. Actea Racem., 1-dec. gutt. lx.
Aqua distill., ℥ ii.

Dose—one teaspoonful every two hours alternately.

CLINICAL CASE IV.

Mrs. B., age forty-five years, of a nervo-bilious temperament. She was married twice, and her second husband was uncongenial to her in many things. She was very sensitive, with refined manners and tastes, very impulsive and had many wishes and illusions ungratified. She had no children. Physically she was lightly formed—black hair, dark complexion, and of a strong wilful temperament. She complained of having suffered for years with a bilious dyspepsia, complicated with renal and cardiac troubles; she complained also of pain in her back, nausea, and was frequently nervous, desponding and fretful, with paroxysms of hysteria. She was very active, and imprudent in diet—drank ale, which always disagreed with her. She had periodical headaches, and eructations of a sour, bitter taste. She led a sedentary life, had nothing *to do*, and consequently was always dissatisfied. She was suspicious and imaginative, very economical, and at times irritable and weak. She considered herself an invalid and a victim of bad fortune.

Physical Examination.—Lungs perfectly sound. The heart was quick in action and small in volume. The rhythmical sounds of the heart were irregular. She suffered from dyspnoeas and cardiac agitation. The stomach and liver were tender on touch; the liver was also organically enlarged, and hard, and gave indications of partial suppression of the biliary secretions, and therefore left an impure, venous blood to circulate through the economy. The kidneys were suffering from the general condition of things and had been secreting oxalic acid crystals. The urine was dark, heavy, unhealthy, and strongly ammoniacal.

Skin of a pale yellowish hue; eyes dull and wanting in lustre; bowels constipated. The nervous system was irritable, weak and lacking both physical and vital force. Nutrition was evidently imperfectly carried on, and the great centre gave signs of mental debility and insomnia. She had horrible fits of temper, despondency, inability to form ideas, or put them together, giving rise to the most ridiculous notions, as to all sorts of domestic comforts and discomforts, which she succeeded perfectly in doing. Loss of appetite, great prostration, nausea with eructations of a sour, bitter taste. Weeping and scolding alternately. This examination was made on my second visit.

Semiology.—It was some five years ago that I was called to see this lady who was thought to be either dying or insane.

Upon entering the room I saw at a glance that things were in a condition of disorder, although quietness existed at the time.

The patient was apparently asleep and I stopped to get some preliminary information from the attendants. It was but a moment, when I heard her moaning and moving. In approaching her, I was faced by two eyes, not the pleasantest to behold. They were wild, angry and wicked. I took her wrist and asked how she was. The answer was, "None of your business," and this was soon followed by a jump and an attempted grasp at my throat accompanied by an oath. I disengaged myself quickly from the awkward position in which I so unexpectedly found myself, and, after receiving several kicks and blows, I retired with the full conviction that she was not to be trifled with. Her husband laughed at my discomfiture, but the affair soon became too serious even for fun.

It took two strong men to prevent her from doing much mischief to herself but, I believe, more to us; however, she made things lively for a time, and it was wonderful, where that little lady found so much strength! During this paroxysm I could only give her something in order to stop her antics and prescribed

℞. Chloralum hydratis, ℈ i.
  Aqua distill., ℥ i.

Dose—one teaspoonful every half hour till better, then every hour, prolonging the interval. I found that smaller doses than those of the dominant school were better fitted for an irritable brain. The danger of chloralum is in its uncertain action upon the economy, and particularly upon the brain and the blood, having the tendency to disintegrate its corpuscles. It has been ascertained that it not only keeps the blood from coagulation, like ammonia, but would soon liquify it, destroying its fibrinous elements.

The collapse produced by chloralum is due to a sudden action of the agent upon the dynamical forces of the cerebrum, causing dyspnoea, and cardiac paralysis with a fall of temperature, which is a pernicious effect.

in the extreme to the animal economy. It is, *par excellence*, an adynamical agent, and therefore to be used with care. Its action upon the nervous system is primarily on the sympathetic ganglia, and afterwards it acts upon the cerebrum and heart. On the second visit, I made my physical examination already given; then she had returned to her normal condition of mind; the medicine was well indicated and diminished the cerebral hyperæsthesia and the storm was over. Nature resumed its calmness and sleep was slowly and comfortably obtained.

She had a small pulse, yellow coated tongue, pain over the stomach and liver, both organs being irritable. She had no appetite, was very nervous, had irritation of the vocal cords with aphonia, great prostration and mental exhaustion. Her head was light and painful.

Etiology.—She had gastro-hepatic trouble caused by drinking beer and from which effect the chylopoeitic viscera became torpid and inactive. She suffered with renal irritability caused by the same beverage and, I may safely add, liquor.

Truly, her physical organization predisposed her to nervous troubles, besides being excited by stimulants. Nothing could be expected from such habits but mal-assimilation and mal-nutrition. Her whole organization was disturbed, and the process of organic function was partially suspended. The splanchnic and ganglionic systems of nerves were very sensitive and very much irritated.

There was a general irritability of the whole nervous system as a secondary result of overstimulation.

Other predisposing causes were, 1. Great indulgence and indolence when a young girl; she was capricious and whimsical. 2. Indigestible food, like pastry, cakes, and candies were used without the least prudence. 3. Sedentary life and novel reading. 4. The inactivity of the mind led her to all sorts of morbid desires and fancies, *producing* depression of mind and discontentment.

4. Indulgence in strong coffee and tea, and highly seasoned food.

These were sufficient causes to enfeeble the best of constitutions, and change the nutritive process into an abnormal condition.

Had this lady been born a poor country girl, obliged to work in the fields for her daily bread, her delicate constitution would have been stronger and a better organization would have been the result.

This case shows the evidence of mal-assimilation and inanition as the result of a delicate constitution, abused by indulgence and vice. When the great co-ordination of forces has been disarranged, no wonder that the physical economy loses that beautiful harmony of action, without which there can be neither health nor long existence.

It is obvious that our first step is to re-establish the physical equilibrium in a rational manner.

Hygiene and Dietetics—1. It was necessary to remove the proximate causes either predisposing or exciting. 2. Tranquilize irritability and excitement, thus return the economy into a normal uniformity of action. The former causes could only be overcome by following a new course of life: e. g. Employment of body and mind; exercise in the open air; proper light and nourishing diet; and above all, total abstinence from stimulants. This mode of procedure would, in time, bring back physical vigor and physiological metamorphosis. It would also increase dynamical forces by elementary agencies acting specifically upon the nutritive functions.

The return to a normal condition of the impaired organic functions, can only be hoped for in the proper conception of what elements are needed, and how to employ an equivalent of homogeneous agents to bring this desirable idea into a practical form.

I therefore ordered leguminous and nitrogenous di e. g., beef-tea, cream, chicken, light broth, oys clams, fish, eggs, vegetables, peas, beans, lettuce, tomatoes; avoiding the starchy materials.

Bathing in salt and tepid water every day. Mental rest, cheerful company, good books to read, etc.

Medical Treatment.—In connection with the hygiene and diet, medical agents were chosen according to their therapeutical and specific action upon this morbid phenomena.

I ordered a sinapis cataplasm to be applied upon the back and front of the liver, because that organ was in such a state of torpidity that I thought it physiologically right to excite a physico-vital reaction. To this I added simply fomentation of hot hops steeped in vinegar and water. This topical indication will be easily understood, when we take in consideration the physical influence of heat and moisture upon the hepatic regions. I cannot recommend too strongly heat upon the liver and all glandular structures. The remedies given were as follows:

℞. Podophyl., pelt. 3-dec. ʒ i.
M. chart., xxx.
℞. Capsicum, 5-dec. gutt. xxiv.
Cinchona, 3-dec.
Aqua distill., ℥ ii.

Dose—one powder every hour alternately with one teaspoonful of the liquid.

The pathogeny of capsicum is well known to the profession, and it hardly requires any review. It is well known to produce spasmodic cough, irritation of the throat and tonsils, burning at the stomach and stimulates the genito-urinary organs. It has a strong influence upon the vagi and pneumogastric nerves, and so also upon the cerebro-spinal centres. Its extraordinary power to control capillary circulation, also brings excess of blood to any given point, or vice-versa, it scatters any sanguine tumefaction, congestion and stasis. It enables the vis medicatrice naturæ to remove congelations or congestions, reducing swellings as promptly and as effectually as belladonna. Its influence upon the nervous system in all the derangements of the sympathetic and vasa-motor systems and upon the ganglia of the lymphatics, is important and decidedly therapeutical. The cinchona adds to it those properties which it requires as an invigorator, i. e. blending the tannic acid and thus strengthening capillary contraction and cellular force.

Those two ingredients I consider homogeneous and correlated in action. Of podophylum, I need not assume any new discovery in regard to its action, as it is well known by both schools.

She improved wonderfully under the treatment and in a few days had almost regained her health.

But I thought that an exhausted nervous system and mental force were conducive to organic hyperæmia and lymphatic complications. I therefore continued

℞. Nux vom., 3-dec. ℥ i.
M. chart., xxx.
℞. Natrum phosph., 6-dec. ℥ i.
M. chart., xxx.

These agents had certainly specific action upon the nervous system both sensory and motory; besides the natrum has a most useful effect upon the chemico-physiological elements of the gastro-enteric juices. In following this principle I succeeded in eliminating much that was effete matter, and aided the vis-medicatrice of nature in all its intents and purposes. She was also ordered vichy water—one tumbler morning and night, in order to act gently but surely upon the elementary alkalinities of the juices and blood.

CLINICAL CASE V.

Mrs. P., a married lady, fifty years old, of a bilio-lymphatic temperament, predisposed to attacks of phlegmasiæ.

Had dark hair, fair skin and large blue eyes, and although her general appearance was that of a strong person, yet she had delicate fibres, very impressionable, but of a good frame. She had had eleven children and her numerous conceptions had left a diminished physical and vital force. Her predominating idiosyncrasis was decidedly phlegmatic and prone to lymphatic disorders.

Taking in consideration the rearing of such a large family she showed considerable strength and was active, for a person of her age and temperament. Her nervous excitability was derived from debility and exhaustion of the general economy. Her domestic duties confined her too much to the house and she was subject to all the annoyances of housekeeping, etc.; otherwise she would be placid, though her stamina lacked fibrinous force.

When I saw her she was suffering with great pain in the stomach and bowels. She had been an invalid for two years and had had the advice of several allopathic physicians, among the number Doctor Sayer of New York. I found her paroxysms quite serious, and threatening some sort of metastasis elsewhere. She was at times in a state of collapse, and was very anaemic and emaciated—her general appearance indicated great physical disturbance. She was often in agony.

The antispasmodics and hypnotics had been used by the Allopaths ad nauseam, and were found to be rather hurtful. She tried the cathartic treatment with no better effect. She had had all sorts of cataplasma and tonics with the same result. The disease was never reached because never understood.

Semiology.—She suffered great pain, spasmodic at times, but always continuous from the epigastrium down to hepatic and enteric regions, and in turn, up to the heart.

She had emesis of a mucous stringy slimy acid fluid, denoting mucous and follicular trouble of the stomach;

the gastric juice became intensely acrid and increased in quantity, and at the same time diminished the animalizing principles (or peptones). There was constipation, due to suppression of biliary secretions; great eructation and flatulency. She could not digest the smallest quantity of food, and when taken she suffered intensely. But even when fasting she suffered with eructations and borborygmus, showing that a gas was forming in the intestinal canal devoid of alimentary material; this was an unmistakable sign of the self-production of carbonated hydrogen gas, resulting from a low and fermenting condition of a mucous accumulation in the intestines. This inflation and muscular irritation produced contractions and spasms.

It is a pathological condition, that absence of bile in the intestines allows the faeces to degenerate into fermenting matter; as the bile is not only a physiological condition for the peristaltic movement, but also a substance which prevents animal decomposition. I found the urine dark, offensive and of an ammoniated character; its specific gravity being 1030. Pulse small; heart's action regular, but feeble; cold hands and feet; circulation deficient and decarbonization imperfect, hence defibrinated blood; .serum and white corpuscles abounding. At times she would be apparently better, only to have a return of those dreaded paroxysms. The seasons of spring and fall predisposed her to these attacks. Her habitation was not desirable being near a pond which was supplied by spring water from many sources in the neighborhood. The vegetation was luxuriant and rank, showing moisture, which constant supply was a source of poison. It was a question whether her trouble originated from malarious effluvia, caused by vegetable decay and stagnant water. She suffered with pyrosis and general exhaustion.

Mal-assimilation and inanition were undermining the physical force to a fearful degree. It was, therefore, of the utmost importance to re-establish a certain amount of nutrition, for life was rapidly losing its recuperative power.

This good lady had had her share of troubles and anxieties. Her ambition and pride had succumbed often to unavoidable mortifications which rendered her miserable, and produced mental irritability. Her will overtasked the nervous system and reflected its influence upon the ganglionic system, and agitation and irritations were the consequences. She had experienced the ups and downs of an eventful life, and such people are often invalids in their old age and suffer from enervation and inanition.

Her menstrual change had not been well directed, and it took place under many difficulties, and consequently left her weak and unable to keep herself in a normal condition; phlogosis of different types attacked at times one organ, and at other times produced a combination of symptoms, almost indescribable; the head, heart, kidneys, and sympathetic system were often disordered; and the mind and disposition were becoming depressed and irritable.

The organic functions, and hence vitalizing forces, were deficient and unable to perform their necessary work in the accomplishment of the various physiological metamorphoses for the sustenance of the animal economy; in another word, waste was greater than the supply. Several factors indispensable to life were disregarded, not only by the patient, but by the physicians, *i. e.*, oxidation, motion, air and light; therefore, the result was an unavoidable chemico-physiological derangement of digestion and assimilation. The sympathetic system was superlatively involved almost to a hysterical degree. Her mental functions were impaired, and she imagined all sorts of evils. Here, I am sure, we had suppressed biliary difficulties from want of organic action, and blood, which was watery, and which had become impure, and through its medium sent poison to the nearest eliminating organ, the kidneys.

Etiology.—Remote causes: A large number of conceptions, mental anxiety and hard work.

Proximate causes: these were links following the preexisting conditions and aided by change of life, exhausted vitality and ganglionic irritability. Hyperæsthesia and disorder of the chylo-poietic viscera interfering with the process of histogenesis. The dynamic functions were all disarranged and enfeebled. The gastro-hepatic disorder, caused a mal-assimilated chyme which being thrown in the intestinal organs, overcharged them with materials of a crude nature.

Medical Treatment.—There was a great complication of symptoms, pathological, sympathetic and reflex, thus rendering the case most difficult to manage. There is great difficulty in finding a medical agent that would correspond with all the objective and subjective symptoms, and so we must use those that are analogous to the general symptoms, and specific with the pathological ones, or with those derived directly from the lesion.

The danger of prescribing symptomatically in a generic sense, is that while we are treating mere effects, we are apt to neglect the salient points pathognomonic of the disease. An Allopath would prescribe a concoction irrelevant and illogical, of many drugs in a pint of water, shake them up well, and each agent must do or should do, just as the classification of his materia medica says ; a most illusory, vague, and dangerous practice.

But on the other hand, I believe that a mere Babylonian Symptomologist would do no better than his confrère, the Allopath. This mode of treatment is surely not rational medicine. It appears to me that something more tangible and more trustworthy should be the great aim of all true physicians, than simply speculations, deductions, and illusions. Let us base therefore our symptomology on pathology, true and real, and from that, extend it outwards to lighter symptoms and corralated uniformity of action. Does this or that remedy correspond in greater or lesser degree with the pathological lesion and symptoms of the disease? Does it correspond with the peripheral and sympathetic signs and organs? Does it cover the pathognomonic indications first, with the collateral complications also? Few indeed are the remedies that are thus known. Some cover objective symptoms, but not the subjective and organic ; and some are specifically pathogenetic, causing like morbid effects upon some organs or forces, and others have no morbid relation to any special organic disease, but have caused, perhaps, some general disturbance.

The specificity of drug action is all important to the disease and the physician. "The greater the similarity," says Hahnemann, "the greater the homœopathicity of the remedy,"—but yet, we should never forget the pathological or morbid relation necessary between drugs and diseases. I cannot agree with Dr. W. Sharp's Organopathy, for there are many organs that are only sympathetically affected, the remote cause of which is physico-vital, or which is from the general systems, or from the great centre of nerves, or the spine, or the lesser or greater circulation and vice versa. The organs' reflex action upon the great centres is well known. We may have an hepatic trouble from malaria, food, nervous influences, and habits; could we cure that liver without removing the causes? and yet there might not be any signs but those of the liver. We may have palpitation of the heart from either smoking, or drinking coffee, or mental excitement; would the heart get well without removing the cause? and yet the heart is the organ that gives us the alarming symptoms.

Organopathy as a system of medicine is a chimera. We must therefore prescribe specifically and generally, only, we must select the drug that has, besides general symptom, the characteristic morbific feature similar to the disease, in preference to unmeaning generalities.

This poor lady had a mania for an indiscriminate use of water; irrespective of age, temperament or disease; and at the very first glance, any medical eye could have seen the fallacy of her theory in her own case; for, if water had had the charms of cure-all, she certainly was a living rebuke to that statement.

Water cure, as a system, is a dream of the past. As an antipyretic, water may be successfully used; and it is also efficacious in certain zymotic diseases. In this case we had: 1. To tranquilize the irritability of the nervous system. 2. To re-establish organic functions and the vigor of the nervous system and plastic force of the blood. 3. To calm mental hallucinations. 4. To aid digestion and assimilation thus increasing the vis medicatrice naturae. 5. To disengage organic engorgement from crude matters and acrimonies.

The support of hygiene and diet were not to be had, as she was a perfect physician's invalid, therefore had tried all sorts of diet and hygiene. A judicious medical treatment was the only thing to rely upon.

The medical treatment was adopted on the principle of specific medicine : i. e., I prescribed assafætida injection for the cholichy borborysmus thus relieving the intestinal canal from the accumulation of gases and materie-morbi—and gave her

℞. Belladonna, 3-dec. gutt. xii.
Aqua distill., ℥ ii.
℞. Plumbum aceti, 1-dec. grs. xxiv.
M. chart., xii.

Dose—one teaspoonful of the liquid every hour, alternately with one powder.

In a few days an improvement was decidedly taking place, for the paroxysms were not so frequent and the continuous pain and gurgling were much diminished.

The diet was composed of beef tea, clam broth, barley water, eggs, broiled mutton and stale bread. Wines (old port or sherry) were taken as a beverage after meals. Cocoa and black tea without milk.

On the second week I found that the medical agents had exhausted their action and that it was necessary to change them for

℞. Lycopodium, 1-dec. gutt. xxiv.
Aqua distill., ℥ ii.
℞. Natrum phosph., 3-dec. grs. xxiv.
M. chart., xii.

Dose—one teaspoonful of the liquid alternately with a powder every two hours.

The action of these two agents is general in one, and chemico-physiological in the other. At times I had to relieve her with the injections, but these were only given at long intervals of two or three days.

And with these principal symptoms of a gastro-enteric nature, we had also to consider the sensitive condition of the ganglionic and splanchnic systems of nerves. In this lady we had also anæmia, and a tendency to the relaxation of the whole physico-vital forces and from this tendency, an organic inertia and acidolous secretions took place. She became so much relieved that the third week she was able to sit in a chair for a few hours at a time. She was very nervous and everything, no matter how trifling, disturbed her and felt every sensation affecting her stomach and bowels.

Her phlegmatic temperament predisposed her to excessive mucous secretions, which formed part of the borborysmus, being a source of fermentation; this is a great symptom of low vitality. I gave her

℞. Capsicum ann., 6-dec. gutt. xxx.
Aqua distill., ℥ iv.
℞. Pepsine, ʒ iv.
Acid hydrochl., ʒ sj.
Aqua bulient., ℥ iv.

These agencies were for the purpose of re-enforcing the process of digestion and assimilation. The capsicum acted upon the vagi, pheumogastric, par-vagum and solar plexus; and again, acted upon the vaso-motor, thus exciting circulation, heat, and force by its irritating elements. Surely the pepsine acted chemico-physiologically.

Dose, one teaspoonful of the pepsine after eating only. The capsicum to be taken one teaspoon every hour.

All these cases of want of force of the organic functions, are to be attributed to a special time in a woman's life, e. g., the climeric time; before, during and after it. And there is the whole physical economy envolved, and anæmia is as liable to occur as asthenia.

She continued to improve slowly but from a right source, viz., an increased physical force. Lycopodium and nux came in order on the fourth week.

On the fifth week I prescribed

℞. Quinia sulph., 3-dec. ʒ i.
M. chart., xxx.
℞. Arsen. alkal., 6-dec. gutt. xxx.
Aqua distill., ℥ iv.

Dose—one powder every two hours alternately with one teaspoonful of the liquid. She took this preparation for two weeks making seven weeks of medical treatment. Her improvement was all that could be desired. On the eighth week I gave her ferrum peroxidum and pepsine, which she took for a month; varying it at intervals with quinia and arsenic.

She was completely cured, although she will always be a delicate woman. This is the sixth year since she was thus attacked, and she has had no recurrence of the malady. After she was convalescent I had her in the air the greater part of the time. These are leading cases which demonstrate that even the most chronic ailments can be much benefited by a treatment the basis of which stands upon logic and the true principles of what compose life and force.

In this treatise I have endeavored to follow step by step the inevitable consequences of mal-assimilation and inanition, through physical, chemical and vital disturbances. I have also tried to trace the pathognomonic symptoms of the disease and its sthenic and asthenic conditions; the hyperæmia of certain organs and asthenia in others. Hyperæsthesia in certain localities and hyperæmia in others. It is of the utmost importance to distinguish a general systematic disarrangement from a local organic, or functional one.

These pathological conditions might be placed in the muscular, sanguineous, or nervous system. The disorder may be centric or eccentric, ganglionic or lymphatic. It might become a brain disease or psychological phenomena may present themselves in different degrees or phases. And again, and more frequently the excernent system is the part that becomes disturbed and in connection with the secernent the histogenetic process becomes dangerously impaired.

The tripods of life are dependent upon a tripod principle, i. e., physical, chemical and vital, and these principles become deteriorated by mal-assimilation, inanition and decay; or else they produce sanguineous metastasis, phlogosis, heteroplastic, hyperplastic or caco-plastic disorders, which are maladies of far more dangerous character, threatening a perversion of plastic organization, hence incurable diseases.

And more, the proteine compound, of fibrin, albumen, and gelatin, once it becomes abnormal, the higher growth and development is prevented or perverted, and if proliferation takes place, the very germ of the cellular arrangement is, as it were, disseminating diseased tissue. Perfect organization of the elements of nutrition is a sine-qua-non condition of the principles of life, whence all the dynamic forces are continually reproduced and kept in a physical state of equilibrium. And at this very point the truth of some great French medical observers is strikingly apparent, viz., that tuberculosis, catarrhal consumption, cancerous disorganizations, and many other similar anomalies, are the offsprings of a protoplastic perversion which ends in hetero-plastic formations. These abnormalities are not exclusively congenital, for they are often acquired by many and various causes, and surely mal-nutrition must be at the topmost, proceeding from whatever exciting or predisposing cause, remote or proximate. I do not mean at the same time to undervalue diathesis and congenital inheritance, but I am decidedly of the opinion that the majority of diseases are acquired either by exposures, confinements, occupations, effluvia, or traumatic causes. If the process of reproduction is not adequate to the waste, or does not supply the elements required, nutrition must be at a loss, and the great phenomenon of life in peril. The vis-vitae and nisus formations go through a pathological metamorphosis, and hence disease.

From these axioms, as established principles, we must rationally accept, that, the true and best therapeutics are based upon the elementary principles or formation of a perfect plastic matter; and to bring about a physical or physiological change, we must adopt those means of which nature is in need, and by which the vegetative process of life is kept up. Are we not to derive more hope from such a natural source, than from artificial agents which are often uncertain in their influences, and oftener too superficially known for their direct therapeutical effects. The lymphatic system is the process of physical development (tissue-making) from an histogenetic principle, the materials of which are albuminoids and amyloids, these must be in an acceptable condition; in other words, they must be thoroughly assimilated for further organization by the lymphatic vessels; but when, as often happens, in diseases of the digestive organs, such an assimilation is not perfect, either of the nitrogenous nutrients or the albuminous, what is the logical conclusion? Three pathological conditions may arise, viz., adynæmia, hetero-plastic formations or asthenia, and these may produce a variety of diseases: malignant or not. Malignant, organic, functional, general or systemic; also, leucothemia, struma, exanthem, arthritis; hepatic troubles and consumption; portal engorgements; atrophies and hypertrophies; neuralgic and renal diseases. Scrofula, spuria or vera, and zymotic disorganizations.

I often observed that phthisis proceeded from dyscrasia in the blood, the result of mal-assimilation of the albuminoids or nitrogenous nutrients, and this takes place from lymphatic weakness or defective digestion; thus devitalizing the quality of the animal nutrition. The blennorhagies, pulmonic or intestinal, tabes-messenterica, gastrosities, apepsia, adenitis and cretenismus originate frequently from the above source.

The ductus aquosi of the old writers conveys precisely the idea of obstructed channels, thus rendering absorption defective and nutrition impeded; these lymphatic vessels pervade the whole economy, and we can readily imagine the results when such physical arrangements are disordered.

Therapeutics is at a loss in these chronic and constitutional cases, for they require much time and acumen for the process of restoration. The first intention should be to ameliorate the most salient difficulties and strengthen the lymphatic system; correct crudities and waste of animal vigor and pacify nervous irritabilities or mental agitation.

Then forward to a radical treatment on the basis already described.

I deem it desirable now to bring forward a different class of cases which will demonstrate practically the result of lymphatic diseases, inherited and acquired, and the predisposing and exciting causes, remote as well as proximate.

CLINICAL CASE VI.

During the year 1869 I was called to see a lady thirty years of age, whose life had been mostly passed in the country upon her father's farm. Her domestic life had not been a happy one on account of family differences with a cross step-mother.

She was very sensitive and high-minded, with a purity of heart seldom found. She was raised among the hills of Ohio, and it had not been her lot to come in contact with the hardships and corruptions of the world. Her step-mother was the reverse: she was a smart, calculating, intriguing woman, whose heart and soul were devoted to one ideal son. She became harsh to the poor girl's father, which was a great source of grief and productive of family-quarrels between them.

These irritating circumstances were indeed preparing the way to some physical complications, as it finally proved. Some fifteen years before I saw her, she took what she called a cold, and was sick with an attack of pleuro-pneumonia resulting from it. She had a very fair complexion—rosy cheeks, prominent lips, light blue eyes, large head, and a small frame. She had always been delicate, and eminently a small eater, which is rather unusual with healthy country people.

Physical Examination.—Her chest looked contracted, respiration 28 to 30 to the minute, temperature 100; pulse 110 to 120, On percussion, I found dullness in both the lower half of the lungs with actual tubercular infiltration. She breathed only with the upper third of the lungs. Auscultation discovered bronchial mucous râles, extending down to the smaller branches, the bronchioles. The bronco-pneumonic difficulty gradually increased. I also found a cavernous sound about the lower half of the right lung where the tubercles were breaking down.

The voice was tremulous, (aegophony) with a mucous-ronchus audible even at the outside. She coughed incessantly, and the expectoration was of a muco-purulent character. She suffered with night sweats and turned against food.

Her pulse increased from ten to fifteen degrees every afternoon, with full pyrexia, profuse perspiration, and increased cough. She was much flushed and prostrated. These paroxysms would last till ten o'clock p. m., and the temperature and pulse would return almost to their normal condition about three o'clock in the morning, and remain so till about 12 m., when a certain climax had arrived, and both temperature and pulse would rise again.

Semiology.—The symptoms of consumption have been so ably described by those who have made a specialty of lung diseases, that any attempt of mine for such a purpose would be futile and pedantic. She had regular evacuations of the bowels, regular menstruation and pain in the chest and insomnia. She improved in the spring and during the summer months, but the same condition of things returned again, as soon as the thermal temperature changed. The idiosyncrasies of the case were: 1. Infiltration of the lower half of the lungs which was never extended above that line. 2. A vomica, which did not appear to increase in size. 3. Regularity of menstruation to within three weeks of her death and natural evacuation of the bowels. 4. The regular pyrexia and length of the disease being of fifteen years standing. Her mental faculties, which were clear and good to the last, only gave evidence of slight delirium during the febrile state.

Etiology.—The causes were both inherited and acquired. Her lymphatic diathesis predisposed her to blennorhagia and subacute hyperemia and metastasis of the glandular system. Her unfortunate domestic troubles acted as an exciting cause; and an irritability of the nervous system increased ten-fold the hyperæmic predisposition of lung tissue.

It is clearly perceptible that it was a case of hetero-lymphoma with caco-plastic deposits in lungs; it was a disease of the lymphatic vessels and glands, which disseminated its acrimony to the lymph, hence impure blood, devoid of fibrin and containing an excess of serum and crude white corpuscles.

Medical Treatment.—It was necessarily symptomatic and palliative. I used lactuca with some advantage, and calcarea caustica to diminish the excessive expectorations.

Phosphate of arsenic was given with much benefit; and also the liquor-potass-arsenicalis of the old school in minute doses, viz., 6-dec. one drop to a teaspoonful, to be taken every two hours. Sponging with salt and water morning and night.

I used senegar, tincture of prunis virginiana, with some benefit. Belladonna and aconite were frequently given during the pyrexia.

She died, after a long illness, in peace and without pain.

CLINICAL CASE VII.

A young lady, twenty-nine years old, of slight frame, light complexion, and of a nervo-lymphatic diathesis, was obliged to work in a factory (India-rubber).

She had blue eyes, light hair and fair skin. She did not have the pathogonmomic symptoms of struma, yet she was of a delicate fibre and lacked physical and vital vigor.

Her blood was thin, and her whole constitution denoted a tendency to emaciation and adynæmia and lymphatic weakness. She had pronounced indications of consumption. The greater part of her life had been passed in the factory, which was very close, where the air was mephitic with an accumulation of gases destructive to the animal economy.

The nutrition was defective caused by a poor diet. Her business prevented her from taking that exercise so necessary to the process of re-organization and thorough decomposition. Assimilation was imperfect and the recuperative power of nature was gradually on the decline. No wonder that a principle of disorganization was implanted in her system.

Physical Examination.—Chest small but regular in shape; there was no depression visible. Breathing accelerated to 40 a minute. Pulse 101 to 102. Temperature high 99½ under the axilla.

On percussion I found dullness over both lungs, especially so over the right. Auscultation revealed bronchial respiration with crepitant râles, and decided hepatization over the whole right lung, and two-thirds of the left.

There was no sonorus-ronchus or vomica. The voice was feeble and metallic, rebounding against the hard tubercular surface of the lungs. Expiration difficult and quick, having no volume of air to eject and a very little diaphragmatic force to contract upon the chest, in order to expel what little air there was. There were wheezing sounds here and there. Egophony was clearly perceptible. Heart quick and feeble in action. Liver sound and kidneys normal. Skin moist with a sour smell. Offensive breath. Pain on percussion. Tongue tremulous and white. Nails inverted. Hands hot and emaciated.

Semiology.—Cough dry, and after with a great effort she would raise a hard ropy mucous with a hard nucleus. It was undoubtedly a glandular secretion looking like crude albumen. Under the microscope I discovered many nucleoli of lymphatic cells. She suffered with apepsia, insomnia, night sweats and constipation. Her menses ceased. Hyperæsthesis, and asthenia were prominent features of her temperament. Her mind was constantly preoccupied with the idea that she was beyond cure. She had had a terrible love-disappointment which preyed upon her mind constantly.

The signs were unfavorable indeed, and the prognosis could not be hopeful. The whole physical economy was slowly becoming weaker and inanition was impending.

She lacked not only physical force but vital and mental, therefore I was sure the case would end fatally and to that effect I gave my undisguised opinion. Digestion and assimilation were disordered so that the proteine compound was defective in quality and quantity, and consequently the process of histogenesis was imperfect, reducing the system in force and development.

Etiology.—The predisposing and proximate causes were inheritance, poor diet, overwork in close, unhealthy atmospheres, and physical inactivity in the pure air.

The exciting and remote causes were as follows: 1. Inability in aiding the great process and metamorphosis of decomposition and re-organization; this alone was a radical defect in the vegetative work, hence adynæmia. 2. Mental excitability and unsatisfied desires. 3. Want of proper bathing and disregard of exposure. These numerous physical deteriorations increased to a considerable extent her liability to pulmonic consumption. Atrophia and hetero-plastic lymphoma were the results of an inherited and induced defective chylification and hence histogenetic difficulty.

Hygiene and Dietetics.—The case was too far advanced and the pathological condition of the lungs too well set in to hope much from any treatment. I prescribed bathing in alumina baths, thus diminishing capillary congestion and reducing both temperature and night sweats. The diet was generous—composed of beef tea, clam broth, eggs, wine and eggs; wine soup, beef steak, roast beef, birds—in fact mostly nitrogenous food. Cream, fruits and nitrogenous vegetables. A hard bed and driving in the country.

Medical Treatment.—What shall we hope from our materia medica in these desperate cases? I wish I could say much or even considerable, but I regret to say that little can be expected, although much benefit and comfort can be given to the patient.

℞. Calc. phosphorica, 3-dec. ʒ i.
M. chart., xxx.
℞. Senega, 1-dec. ʒ sj.
Aqua distill., ℥ ii.

Dose—one powder every hour alternately with a teaspoonful of the liquid. The cough diminished in frequency. The expectorations were less tenacious or ropy and more fluid. There was a diminished disintegration of the nucleoli of the lymphatic glands. The hygienic, dietetic, and medical treatment all combined, were conducive to a general improvement, but none the less the progress of the disease was checked to no appreciable extent. I gave her kali arsenicalis, Belladonna, Bromine, iodine, cod liver oil and Barita carbonica, phosphorus, etc. But with the exception of temporary improvement the patient gradually grew feebler until her miserable existence ended. I must say that she had the usual afternoon and night pyrexia which caused insominia. The lactuca, belladonna and aconite relieved all those symptoms. And especially in this case, she being so young. I am strongly inclined to believe that if she had been raised in the country and with light field work, early hours, simple good diet, quietude of mind the probabilities would have been an entire re-invigoration of the recuperative and plastic forces, hence more development and the atrophia lymphatica corrected to a great extent.

CLINICAL CASE VIII.

Mrs. L., of Gambier, Ohio, forty-three years old, of lympho-phlegmatic diathesis.

She was large in frame, had blue eyes, white skin, large mouth and thick lips. Blue veins were visible under the delicate skin. She was very intelligent, good natured and of a strong will.

She married late in life and had no issue. She had been an invalid for many years and tried a great many physicians with but little relief.

Her general appearance was good and strong, yet she suffered with cough, night sweats, pain in the chest and general exhaustion. Her ambition and industry were unbounded. She lived well and had the comforts of a home.

The climate at Gambier is moist and changeable and her life was very retired and devoid of air and motion. All her work was in close rooms, comprising domestic duties.

Physical Examination.—Her chest was well developed and considerable volume of air seemed to enter, yet on long inspiration the lungs did not take up the normal quantity of air that such an exertion would naturally suggest, and the expansion of the chest seemed insufficient. There was no diaphragmatic respiration, but prolonged expiration, as though the air inspired could not easily be removed.

Auscultation revealed moist crepitous ronchus over the bronchia and bronchioles, while over the rest of the lungs there was ægophony; the voice rebounding back and a sibilant sound was heard here and there, which are sure signs of hard hepatization. I found this condition particularly in the right lung, on its upper third. This indicated bronchial respiration. There was also a cavernous sound in one spot, but I could not discover any gurgling noise. The lower lobes were hepatized. On percussion, I found dullness under the axillæ all the way down to the apices. Supra-clavicular dulness—over the clavicle and over the upper lobes no real hepatization could be discovered, yet there was a muffled sound not reassuring.

There was much bronchial expectoration of clear mucous with, at times, a nucleus of hard gray tubercular-looking substance in the centre of the expectorated matter. On microscopic examination I found these little hard substances to be a mal-assimilated fibrino-nuclieted lymphatic granules, leading me to believe strongly in their proliferation by contact thus disorganizing the lung tissue and glandular arrangements.

The temperature of the lungs was 99$\frac{3}{8}$. Pulse, during the afternoon, was 112 to 120 and hands and feet burning hot. Her finger nails were turned inwardly. Heart sound; liver in good condition, kidneys normal. Her digestive organs were in a state of perfect torpidity. Night sweats and arterial hemorrhage.

Semiology.—I found her with a dry hacking cough which, by much exertion, brought about large bronchial yellowish mucous expectoration. This effort exhausted her very much. She was suffering with apepsia, insomnia and apyrexia from early in the afternoon till midnight, when she found some rest. Great mental disturbance causing dreams and seeing all sorts of spectres. Assimilation difficult, circulation feeble; blood thin and watery. Her idiosyncrasis was hyper-lymphoma or mal-assimilated albuminoids. Menstruation regular at times, and at others abundant and painful. At times she suffered with complete aphonia for days, and it undoubtedly proceeded from great nervous debility of the pneumogastric and pharengeal plexus. The hemorrhages were often serious and enfeebling vitality, which she needed to a great degree. With all these unpleasant prospects she was rather cheerful and kept up a wonderful amount of courage.

Etiology.—Inheritance and crude lymph. Exciting causes were only confinement to the house. No other difficulty could be traced than want of motion and decomposition.

Medical Treatment.—The laws of dietetics and hygiene as re-invigorating and vitalizing elements were well known to her and she had adhered to them faithfully.

I have no doubt that the highly nitrogenized food and the liquor diminished the progress of decay and kept up as it were an artificial force, and thus she was under the restorative principles of life, minus a few other agencies, which if they had been employed early, organization would have been fully established and strengthened. Air, out-door exercise, and mechanical labor in the garden would have brought about results of vitalization that no other means supply.

The medical part of the treatment was palliative, for it hardly could be called curative in that stage of the disease.

℞. Calc. phosphorica, Ferrum peroxidum, Liquor potass., Arsenicalis, Secalæ cornuta, Natrum phosphoricum, Senega, Prunis virginiana, Lactucaria, Phosphorus.

Inhalations of carbolated lime, stopped the excessive secretions. I finally succeeded in sending her to St. Diego, Cal., where she could enjoy the benefit of that beautiful and thermal climate.

A few months after she reached her place of destination I heard tnat she had improved wonderfully that she had grown stout, coughed little and was generally invigorated.

CLINICAL CASE IX.

A young man, thirty-one years old, of a delicate physical development, whose occupation was packing and drying tobacco in a snuff factory, where that material was constantly afloat and therefore inspired through the nose and lungs. He sent to consult me for a severe sore throat.

His general appearance presented at once that of long physical suffering and complicated disease. He had blue eyes, light complexion, and was of a nervo-lymphatic temperament, hence predisposed to those ailments of lymphatic constitutions.

I found him lying in bed, weak and prostrated, suffering from aphonia and night sweats; small, quick pulse and general physical debility indicating vital disarrangement.

Physical Examination.—There was nothing irregular in his physical construction; respiration regular, though too frequent (22 to the minute). He was greatly emaciated and feeble. On auscultation I found respiration and expiration natural and no abnormal sounds perceptible. Percussion did not reveal any pain or dullness. I could not discover any pathognomonic signs of phthisis either incipient or chronic. The heart's action was quick and regular, but wanting volume and firmness. His bowels were constipated; liver inactive but not enlarged. Stomach seemed to perform its functions naturally; appetite capricious, a desire for coarse food, like fried ham and potatoes.

Semiology.—He coughed constantly at night, and could get no sleep. He said, "Oh! Doctor: if I could only sleep!" He did not know his condition; he thought it was simply a difficulty of the throat which could easily be overcome. He was a poor man, and lived in badly ventilated rooms, crowded with dirty children. His food had always been of an inferior quality and miserably cooked. His ignorance of the proper rules of living and hygiene exposed him to discomforts and physical suffering. Undoubtedly his occupation was conducive to disorganization of the respiratory apparatus.

I found him expectorating a large quantity of ropy mucous, containing solid mucous membranes, which had the appearance of having been detached by ulceration. The urine was high in specific gravity and did not contain the usual amount of phosphates. Hyperemia, with a hot, burning skin. Great thirst and a constant scrap- f the throat. His difficulty commenced a year or so before and he had had some medical treatment from the Allopathic school, which he described as nauseous and disturbing his stomach.

Cod-liver oil and whiskey were also given, but with no apparent benefit. He continued to work in the snuff factory until his strength would allow him to do so no longer. No regular diet was prescribed nor hygienic rules; he was left to his sad fate. His voice was changed into a hoarseness, mixed with some sybillant notes, strongly indicating a changed physical condition of the larynx—he felt a lassitude which denoted a deep seated disease.

The larynx, on examination with the laryngoscope, was found with spots of ulceration through the mucous coat, extending down to the trachea, and perhaps down even to the biforcation of the bronchi. There were no signs of tuberculosis in the lungs, though I suspected such condition in the trachea and larynx.

Etiology.—I could learn nothing of his inheritance, as throwing any light upon the diagnosis of the case. His parents were all dead, and according to his account, died young and not of consumption. But as usual, we are sadly disappointed if we place much reliance on such desultory accounts, for they are generally disconnected and unsatisfactory. It was sufficiently evident that they were poor and belonged to that unfortunate class, the lowest strata of the human family, full of vices and ignorance; improvident and neglectful of the first principles of life and its requirements.

These people leave the seed of their vices to their offspring, there to grow and develop. Unless these poor children of misfortune are removed early in life to salubrious climates and better modes of living, and raised by education to understand the importance of proper attention to the rules of life, they are apt to die young with some discrasia implanted by their forefathers and developed by their neglect.

In this case, I should express my conviction that both inheritance and occupation were the two principal factors which prepared the foundation of this pathological condition. And besides, we had the exciting causes of poverty, want of hygiene, exposure, overwork and bad and improperly prepared food. We could classify these cases together with consumption, lymphoma, rachitis and scrofula in all their varieties and forms.

Treatment.—In these cases of physico-vital disorganization all authorities have found that our art is deprived of those very elements upon which we can build with any hope of success. The material necessary to work with is not any longer to be found or trusted. The organizing principle being once vitiated, the correlation of the physico-vital forces is impossible.

I prescribed baths of iodide of potassium which had the beneficial effect of stopping the night sweats and the excessive expectoration—and besides I ordered:

℞. Kali causticum, 6-dec. gutt. xxiv.
Aqua distill. ℥ iv.

Dose.—One teaspoonful every two hours.

He was kept on this treatment for a week, but with the exception of having recovered a little strength, which I credited to the potassium, no other improvement was visible.

In my perplexity I gave him the doubtful benefit of a change:

℞. Acid nitricum 3-dec. gutt. xxiv.
Aqua distilt. ℥ iv.

Dose.—One teaspoonful every two hours.

With this I gave him baths of nitro-hydro-chloric acid. For a while his expectorations improved, his appetite returned to its normal condition, his bowels moved regularly, and he slept better. Like every physician whose hopes from the very first are disheartening, this improvement kindled a spark of hopeful anxiety, that after all something could be done with this young man. In connection with the treatment I gave him a generous diet composed of the most nutritious elements, such as roast beef, rare mutton, eggs, milk punch, clams, rice, beans (black), generous soup, wine, black tea with cream, three times a day, in order to prevent the great waste going on; finally I exhausted the dietetic list. The treatment benefited him only for two weeks, after which he became weak and despondent; the cough returned as bad as ever, and in fact all his former bad symptoms reappeared. He suffered with great dyspnœa and pain in the trachea. I relieved him with a few drops of hydrocyanic acid in milk. Borax was also given with temporary benefit. He finally died suddenly.

Of course my patient was too far gone when he came into my hands, and there was no time for treatment sufficiently exhaustive to pronounce homœopathy a failure, for other remedies should have been tried before reaching such a conclusion; yet I feel that these cases defy all our art—at least mine.

Rationally speaking, does our case suggest to us that there might have been a prophylactic medical treatment which might have produced a change in the physical predisposition of this man? Could our profession offer any reasonable hope of disengaging the system from those crudities of perverted lymph and changing them into a healthful organizing process?

Unhesitatingly I answer, that the majority of these weakly constituted people, if the proper hygienic and dietetic rules could be enforced early in youth, and they removed into a salubrious country life, working on farms in the open air, probably ninety per cent. would be successfully cured and the predisposition eradicated, or so modified, that a long life would be secured to them.

CHAPTER V.

DISEASES OF CHILDHOOD.

DEFECTIVE ORGANIC AND VEGETATIVE FUNCTIONS.

Organic force and its physiological functions depend upon a triple cause or origin, viz.: physical, vital, and mechanical, and it is obvious that the vegetative chemico-physiological functions are derivatives of this natural combination of the physical organization. The systems of absorption, secretion, circulation, excretion, etc., are all included in this vegetative and primitive vital action.

We will find the division of the lymphatic system into internal and external, useful, being connected by anastomosis of large plexuses. This system is entirely confined to animals, for it is not found in either birds or fishes. It is sometimes irregularly developed in its plexuses, but mostly found in the tract of the absorbents connected with the lacteals and lymphatic glands.

These absorbent vessels are found mostly on the internal surface of the small intestines, and visible only by a powerful microscope. They are found larger, as they are intended for stronger physiological functions.

The age of infancy is unquestionably a period merely of nutrition and growth with all its concomitants, accidental or otherwise, and disarrangements and diseases.

This complex work is evidently accompanied by many difficulties, the organs of digestion and assimilation being taxed to the utmost in the process of organizing (or preparing), assimilating secretions, and selecting the different requirements, and at the same time expunging the materials which have ceased to be useful and nutritive; and it is also natural that the vital functions should be heavily engaged in assisting in this physico-vital process, hence the occasional hyperæsthesia of the nervous centre (brain) running oftentimes into irritability, hyperæmia, and asthenia. Excessive nutrition is truly oftener the cause of diseases of the vegetative system of infants rather than a want of it. The watchful and unwearied mother is too frequently the innocent source of implanting obstructions to the growth of her child by overtaxing his or her digestive functions.

The lymphatic system has such a material influence in the process of physical organization, that I would venture to say that in the majority of diseases where atrophy, asthenia, anæmia, and marasmus exist, we will find atrophia lymphatica, adenitis, hyper-lymphoma or hetero-plastic lymphoma. By these various pathognomonic indications we are able to trace the nature of these abnormalities, originating from idiopathic, symptomatic, acquired, inherited, predisposing, or exciting causes. And, furthermore, these pathological differentiations lead us to a more intelligible knowledge of these diseases and their treatment.

At this peculiar period of infantile life, we may well say that the animal economy is not guided by the law of equilibrium, as the process of nutrition must necessarily be far in excess of that of waste, and therefore the chylopætic viscera must be strong enough to prepare, assimilate, select and separate the nutrients, in order to retain the necessary physical force for the histogenetic process. The fats, the acids, the urea, the triplophosphates, etc., must be electively selected in order to provide the plasma with those elements necessary for the accomplishment of the grand ensemble of animal life.

We have clear and logical evidence that all the organs must be in a state of very great active turgescence (orgasmus) and this must be continually and promptly removed by organic force and activity, and consequently, it is easily understood that the process of chylification can be readily changed from the normal into an abnormal condition, both in quantity and quality; and thus being subject to become either a nutritious or a non-nutritious element, from which life and force are attained; or, vice-versa, debility, atrophy and decay.

The lacteals and villi select, their formative elements, and the rest is reabsorbed by the lymphatics to be reorganized and carried again through their vessels into circulation and contact with the glands, and there to be acted upon by a lymphatic fluid until it becomes a suitable element for tissue and blood. These great glandular arrangements act physiologically upon the albuminoids and oils, so that these elements may be properly prepared for general nutrition. The pancreas, Brunner's glands, Payer's patches, and all the enteric fluids are well known to possess this physiological property. The superfluous material, of course, is taken in charge by the excreting organs.

The glandular system in childhood is naturally larger and softer, than in advanced years and its external ganglia is easily felt by the naked hand. This condition remains as long as the system needs such a great amount of nutrition, and decreases step by step as we advance in age, till the whole system reaches the acme of statuquo and gradually descends into inanition and natural decay.

It is of much importance to be able to diagnosticate the various shades of lymphatic diseases and their pathological differences and general effects. Hetero-plastic lymphoma is detected by general scrofula, and is the physical result of an acrid, ichorous lymphatic fluid, the true evidence of mal-assimilated albuminoids, which, form into the abnormal fluid above described, and is the result of many pathological lesions, viz., eczema, ecthema, scrofulous ophthalmia, tetters, marasmus, adenitis, acne, lupus exedens et non-exedens, intertrigo, porriga, crusta lactea, otitis, tubercolosis, ulcers, tumors, etc. We designate cases of hyper-lymphoma in fatty lymphatic persons, by superfluous animal tissue, added to easy good nature and indolent disposition, where the nervous system is in a certain sense, slow to act and lacks vital force.

If this temperament or idiosyncrasis is happily endowed with strong nervous and sanguine force, it is undoubtedly an addition of great value; but of course an excess of either, would predispose an individual to some peculiar malady of its own peculiar kind, and thus lose that equilibrium so necessary in a perfect organization.

In hyper-lymphoma we frequently find a serous blood, leucophemia, and a proneness to tumors, catarrh, pulmonary difficulties, low fevers, etc. We also often find the reverse of this condition which is known as lymphatic atrophy. This abnormal condition may be inherited or acquired; it may also be a mere constitutional idiosyncrasies or a result of mal-nutrition, malarious influences, or other diseases peculiarly devitalizing. When such condition is congenital, there is no doubt of its being the result of an ichorous lymph—(heteroplastic) and hence abnormal lymphatic development such as atrophia lymphatica, or marasmus; and in this instance the histo-genetic process is necessarily abnormal. The chyle may be properly and sufficiently healthy, but the moment it has to enter into a further stage of animalization by entering the lymphatic vessels and glands, it finds hardness, insufficient vital and physical force, and the fluid secreted becomes of a disorganizing rather than organizing nature. This physical defect changes the healthy chyle into an abnormal fluid and from that, the blood becomes deficient in fibrin, in iron, in phosphates and naturally, the liquor sanguinis is feeble and serous.

In cases of acquired disorder of the lymphatic system, there is more hope, and less tendency to malignant and incurable disorganization. It may be a temporary and superficial derangement, in which with care and proper hygienic and dietetic treatment a favorable change may be produced. It is in this acquired atrophy that the intelligent physician can prevent much mischief and re-establish a physical equilibrium, and thus conquer a disease which if neglected, or not intelligently treated is sure to create organic hyperæmia and nervous asthenia, finally ending in adynemia and constitutional decay.

The principal train of symptoms are emaciation, mental feebleness, enervation, apepsia, renal troubles, hepatic engorgement and atrophy; weak venous circulation, rachialgia, curvatures, morbus coxalgia, and follicular diarrhea, general cachexia. In this last instance nutrition is at a high degree of insufficiency. The chyle must be (as a sine-qua-non) deficient in those properties required by the general system: the nitrogenous, albuminoids, calorificients, one and all, divested of proper animalization, hence mal-nutrition; and therefore the physical metamorphosis will sooner or later retrograde into a condition of general disorganization.

Exciting causes are: Exposures, poor alimentation, uncleanliness, excess in eating, drinking spirits, excess in venery, want of proper hygienic rules, confinement in prisons, bad water and abstinence from animal food. Also, sedentary life, and living in unhealthy low locations with effete exhalations. There are likewise certain diseases which invariably excite numerous ganglionic complications, viz., measles, intermittent fever, scarlet fever, typhoid and typhus fever; also chronic diarrheas or dysentery; ship fever, erysipelas, small pox, syphilis, gastro-enteric engorgements, mal-assimilations, typho-malarious fever, and suppurating wounds. There are an infinite number of causes that are liable to irritate this delicate ganglia, and its relation to the venous system renders it liable to communicate its morbid effects to the venous circulation as the lymphatic vessels end, where the venous begin.

It is unquestionably a physical disorganization, which necessarily affects the pabulum vitæ and plastic force.

The lymphatics being divided into plexuses are not only placed in different parts of the digestive track as co-operating with the process of animalization of chyle and lymph, but they occupy also an important place in the excretory apparatus as well as in the absorbent; they form conclusively a process of injection and ejection. Through the apparatus of the skin the outside influences are received. Through it, we receive the depressing and devitalizing influences from animal and vegetable decay, viz., that of mephitic gases, malarious effluvia from marshes of fresh or salt water; through it we receive the morbific influences from meteorological changes—the ever increasing or decreasing elements of health and life: the thermal temperature giving us a genial atmosphere, or a cold wind, chilling us to the very marrow and carrying with it dampness, which absorbs animal heat faster than we can re-produce it, thus producing those diseases peculiar to a sudden change of air, impregnated with moisture. Daily changes of temperature engender pulmonary disorders, rheumatisms, neuralgia, hyperæmia and phlogosis, all of which have a tendency to lower organic force.

We have evidences of this in that dreadful scourge which rages in the south—the yellow fever, and in the meteorological influences in the time of cholera, and typhus diseases. We have evidences noticeable in enteric troubles of children and all these materie-morbi are brought inwardly by the lymphatics.

This, together with breathing infected air, and the everchanging evaporization of the body, predisposes the animal economy to an innumerable number of disarrangements and diseases. An excessive evaporation of the body caused by atmospheric heat or produced by an undue amount of activity, predisposes one to pyrexiæ and phlogosis. If, on the reverse, evaporization should be suddenly checked, the urea, the biliary matter, the lactic and carbonic acids are not eleminated, hence we have all that train of infantile enteric disorder which every physician is acquainted with. Thus it is an undeniable fact that the lymphatics without, as well as those within, have the most intimate relations in the function of absorption, secretion and excretion, besides that of organization.

These various atmospheric causes bring about an irritability of the lymphatic vessels, a change in the digestive fluids becomes unavoidable, and hyperæmia lymphatica with pyrexia and turgescence follow. Entero-mesenteritis takes place, which is now-a-days expressed in the generic term of cholera-infantum. This condition must bring about an abnormal change in the functions of the chylopoietic viscera and therefore in the nature of the chyle itself. The first condition is generally that of plethora lymphatica followed by irritability, asthenia and adynæmia with exhaustion.

The derangement of this important system reflects, oftentimes, its powerful influence back upon the nervous system, the blood, and the functions of the organs. And therefore we have the discrasie, the cephaloid troubles, and organic maladies. And in this country where the meteorological changes are so deleterious to health, we are seriously affected, and particularly the children, from these elementary causes. The air of our cities is liable to be impregnated with mephitic gases; that of the country with malarious poison arising from vegetable decay or paludal effete exhalations. But on the contrary in high mountainous air where these poisons are not to be found there are seldom such diseases prevalent.

The process of digestion and organization is obviously attacked by all diseases proceeding from either malaria, mephitic, or effluvial exhalations. The vital force is at once struck at its very base, the chemico-physiological process is changed and the whole physical organization becomes infected and modified. Is there any great difficulty to imagine such metamorphosis? and although well understood it is not always in our power to change these conditions, and by a negative action or apathy great epidemics are produced and spread, which become uncontrollable even by the best medical skill.

The precursory symptoms are those of general malaise, want of appetite, insomnia, white coated tongue, dry hot skin, hot breath, prostration, diarrhea, strong and small quantity of urine, want of mental force with irritability, the pupil becomes dull, the pulse quick and at times irregular.

The cardiac symptoms are either slow and regular in action, or irritated by a quick jerking pulsation, The organs become inactive, and the secretions are slow, and limited in their functions. Gastro-hepatic torpidity, and gastro-enteric inactivity are necessarily the prelude of a physical disorder. And if these preliminary ailments are not either, by nature or artificial medication checked, the disarrangement proceeds further and gradually affects organic action; the nervous centre and blood are by progression sympathetically or vitally subordinate to morbific influences which disseminate acrimonies crudities and disarrange further organization, assimilation, chylification and nutrition.

The distinction between simple dental irritation and meteorological changes should be a sine-qua-non with the physician. And again, between over-nutrition, causing plethora irritability, and digestive crudities, or insufficiencyof the proper food in quality and quantity, are also matters worthy of serious inquiry. There must be properly ventilated apartments, bathing, and careful attention to the bed and clothing. Often times the origin of this infantile trouble is due to the want of the first rules of hygiene and nutrition. Another great consideration for the general result is, whether the mother's milk and diathesis is to be a source of strength and health to the infant, or whether an artificial nutriment would be more advisable.

1. Consumptive or scrofulous mothers should not nurse their children as any discrasia of the blood can be communicated and increased by the daily process of nutrition. Children of such parents should be nursed by healthful wet-nurses and enjoy the strengthening renovating physical influences of country air.

2. An analysis of the milk should be made in all cases where the infant appears to ail from abnormal nutrition; there we may find the real cause of the disturbance. The milk may be too rich in butter, or casein; it may contain a strong lactic acid, or abound in caseous substances; else not contain a sufficiency of albuminous substance.

If the proteine compound is at all abnormal, the histogenetic process becomes impaired in its very first principal of life. In finding these difficulties we must have the remedy at hand. 1. A very suggestive one is condensed milk; 2. Experiments have proven that a vegetable compound of nitrogenous food can be safely and scientifically supplemented (vide leguminous food); 3. Purely animalized food in the shape of mutton broth, light beef tea; broth and vermicelli; broth and bread well boiled and strained. I have a strong faith in rice, peas and lentils as substitutes for milk.

These artificial nutritions are more frequently a temporary necessity, but sometimes it becomes an imperitive one for months and even years. We have a remedy in changing animal to vegetable nitrogenous food, avoiding the amyloids and the carboniferous, adding only the succulent by giving the ripest fruits with sugar.

Every physician should have a lactometre thus measuring the amount of water.

It should not be forgotten, that each diathesis has an idiosyncratic inheritance, and that idiosyncrasies should not be allowed to become the prominent feature of the system, thus necessitating the loss of that equilibrium so desirable to every economy. The temperament of the individual should be well understood, and by diet, hygiene and medicaments a change is possible. But an acquaintance with physiology, is to know the deficiencies of nature and the remedy.

This may possibly seem an assertion in the abstract, but I insist that there is much in it which the most superficial observer of medical science can see at the very first glance.

All elementary, dietetic and hygienic means have a direct influence upon the development of the animal economy, its temperament and idiosyncrasis.

Those nations that live in a southern climate must live according to the peculiarities of the climate, and their food, clothing, occupations and hygienic rules be subordinate to the physical influences surrounding them. Every means should be employed to increase the ozone. Nitrogenous food may be necessary for a certain infant, albuminous for another, and amylaceous and succulent for a third. And, if this is true, we should prescribe the same to the mother or select a nurse whose constitution would not favor the tendency or possess a predisposition to any abnormal idiosyncrasies. With such a system wonderful improvements may be brought about in the metamorphosis of life and growth.

The change in the secretions, if not due to over-nutrition, certainly suggest that either the quality of food or the atmosphere is possibly the cause.

Excess in any one kind of alimentation, or when too constantly used, is sure to become hurtful, solely because other elements are necessary to supply the various demands of the economy. If an excess of albuminous food should be used an excess of lymph would be the result, provided that albuminous nutrient was properly assimilated.

The excess of nitrogenous food would create other disturbances and discrasia. The amyloid and succulent alone would likewise disturb the system, if used in great quantity, producing fats, heat, fermentations and mal-assimilation at the expense of blood and tissue.

Childhood, therefore, can be nourished into growth and strength, even if it should inherit certain deficiencies in its own organizing force; and to these we must supply a patient and untiring care from their very birth up to twelve and fourteen years of age, when with the approximation to adult life, a new vigor, as it were, bursts forth, disengaging the system from all the weaknesses of the past. And, furthermore, we must use a progressive treatment as the child grows by giving him more exposure, more amusements, more motion, air, light and electricity. With these and the above suggestions, I dare say, one half of the strumous, phthisical, dyspeptics, and those of an anæmic condition could be permanently rescued from a life of discomfort and an early grave.

Sanitary science, at the present day, should be the acme of all the medical schools, as prevention of disease. This is as necessary, if not more so, than medical treatment, after a disease is contracted.

Bathing is eminently a great source of health. National baths should be established in every city. They prevent morbific influences from invading and implanting malarious germs in the system, and diminish and equalize the temperature of the body; at the same time they stimulate excretion, and capillary activity being kept up they assist the system in the process of ejection of the excrementa.

In hot summer days when the thermometer ranges from 80 to 90 and 100 and the number of the deaths of infant increases to a fearful mortality, the principle of bathing them morning and night would diminish that irritability produced by the excessive heat, and promote the secretions and excretions, controlling therefore all that hyperæmia and hyperæsthesia which children are constantly suffering and giving alarming evidences of danger, and I feel at liberty to say, that these natural means would prevent many summer disorders by preserving the the equilibrium of the vital forces and organic functions.

I do not intend to say that such a system of treatment would prevent all diseases of children, but I mean to say, that the excessive mortality would be greatly diminished; and I also would add, that medicaments are often required and have a beneficial effect in re-establishing the equilibrium in chemico physiological diseases of the alimentary canal. Medicines will stimulate a torpid liver, a sluggish stomach; will pacify an irritable nervousness, change excessive and acrid secretions and stimulate gastric secretion. These agents are—Bryonia alb., Ipecac, Rheum, Cinchona, Acid hydrochloric et phosph, Aloes calcarea phosph., et carbon, Natrum phosph. and Bismuth. If the circulation is giving symptoms of pyrexia: Belladonna, Digitalis, Aconite, Stibium and Hyoscianmus. If the nervous system is principally affected: Secalæ corn., Cuprum, Pulsatilla, Veratrum alb., Helleborus, ingn., Kali Bromidi, Opium, Stramonia and Musk.

In follicular disease of the stomach and bowels, digestion and assimilation are comparatively abnormal; the peptones are defective and the gastric juice insufficient; then, Chlorine, Hydrochloric acid, Natrum. Iris Florentinæ are indicated; starch is almost insoluble by the weak salivary juice of children, and is not turned into sugar; lactic and butyric acids are formed from animal food in adults. Natrum phosphor., calc. phosph., kali carbon, etc., are all agents that will add the elements wanted in the salivary and gastric juice.

The salivary juice aids the stomach in digestion in the transmission of starch into sugar, and sugar into lactic acid. The acids which proceed from fatty globules (butyric) must be acted upon by the alkalinity of the saliva. And there is as it were, a double digestion going on in the stomach, partly salivary and partly gastric, " and this is doubtless one of the causes of those differences which have been noticed between natural and artificial digestion"—DRAPER. Amylaceous food is acted upon only by the strong saliva of the adult, therefore farinaceous substances containing starch are indigestible to an infant.

If encephaloid metastasis should take place, which often happens from dental or enteric irritation, use belladonna, stramonia, kali bromidi, helleborus, puls., etc.; but if the secretions are abnormal and acrid, with plephora, I find that, merc. sol. or alkalizatum will do well, and also ipecac and carc. carb. or carb. veg. In hepatic metastasis, hot fomentation to the liver and intestinal canal, with belladonna, podophylum, aloes and nitric or hydrochloric acids And I find also camphora, natrum phosphor., cinchona and quinia to be very beneficial—(vide Burt's on Quinia).

In the renal complications warm baths with terbenthenæ, belladon, cantharidies, digitalis, cannabis sativa are excellent.

In general hyperæsthesia chamomilla, coffea, ignatia, pulsatilla, moscus, gelseminum, kali brom. should be used.

The lymphatics and sympathetic systems are frequently directly or indirectly involved, and in such cases would suggest assafetida, belladonna, conium, au-um, arsenicum alkalizatum, barita, iris florentina, sanguinaria, hyosc, spongia, hepar sulphur, scutellaria kali iodidi.

The stomach is histogenetic in its functions, chiefly transforming nitrogenous food into blood; while the office of the enteric digestion is to transmute the albuminoids into tissue, the amylaceous, glucose and fats, into respiratory food, or chalorificients.

Here, we enter upon the chyle formation and pancreatic functions; these special functions are too well known to require description. The amylaceous glucose and albuminous substances are variously acted upon by the intestinal juices and changed into lymph and tissue; others into fatty emulsion and chalorificients.

The excrement system is thus seriously engaged, while the secernent is equally so (lacteals and villi) in changing the lymph into liquor sanguini. From this we can determine or rather we should be able to, whether we have gastric disorder or enteric, or both. Enteric digestion is subordinate to the gastric in a great degree; imperfect chyme cannot be acceptable to enteric digestion, hence imperfect chylification must take place. Gastro-enteric diseases, I venture to say, should be treated on a chemico-physiological principle, adopting, however, other means in addition to the medical agents for the full accomplishment of a logical and successful treatment, and therefore we must add—air. light, heat, bathing, etc. These elements are indispensable to a perfect physical organizing principle.

From what has been said it is obvious that every physician has to make special examination of the digestive organs, their functions and their peculiarity.

It is not sufficient to know only that a child has diarrhea or constipation, irritibility, fever and want of appetite, but it is of great importance to know where the real morbid cause lies. If the fault lies in an insufficiency of digestion or elements of digestion, then what are they ? And it is in these very cases that the chemico-physiological treatment serves us so well.

There are sporadic and symptomatic diseases of the digestive organs and in such cases we have to adopt first, those remedies that will do away with the primary cause, and second, give such remedies as will re-establish the elements which the materie morbi have either destroyed or changed.

The Tissue-Remedies of Doctor Schüssler are doubtless chemico-physiological agents, and all the principal and indispensable elements in the formation of the plasma. When we find the evacuations abnormally fetid we have formations of sulphurated hydrogen gas from animal decomposition, the urine is generally scanty and strongly tainted with ammonia and urea. But if we find odorless fæces, accompanied with much gas and pain there is undoubtedly carbonic, butyric or lactic gaseous fermentation, proceeding from a vegetable principle—fats, starch or succulent matters, which not having been digested become fermented, acidulous and deleterious to the animal economy; and with it we frequently find a suppression of bile and an increase of white odorless urine.

In the first instance we find the greatest benefit from a change of food with sodium phosph., Hydrochloric acid, bismuth, sodium chloricum, natrum carbonic, etc. In the second instance, carbo-veg. alcohol, animal diet, hydrochloric acid, kali carbon, magnesia phosphorica, rhei-mercurius sol, hot water, etc. Also aloes and colocynth.

If exhaustion supervenes, and collapse is threatening it is well to prescribe burnt brandy, camphora, belladonna, quinia, cinchona and chloride of ammonia, capsicum, arsenic, phosphorus, sponging, opium, etc.

CHAPTER VI.

DISEASES OF CHILDHOOD.—*Concluded.*

ATROPHIA LYMPHATICA.—*Tabes—Entero—Mensenterica.*

THIS is a common disease in children, particularly so in those of a scrofulous diathesis; although at times it may be the result of other influences like malarious poisons, scarlet fever, measles, poor nutrition and on the contrary over-nutrition and neglect of hygiene.

There are several nosological classifications of this diease, according to its locality and the organs it involves, viz., Tabes—Entero—Mesenterica, Tabes Pulmonalis, Tabes dorsalis, and generically called marasmus, including Tuberculosis and lymphatic tumors. It is the same disease only pervading different parts of the body, but pathologically and pathognomically the same.

These classifications are very suggestive to the physician. The disease generally and necessarily develops in those organs that are in greater use and greatly supplied by the lymphatic vessels and glands.

It is obvious that childhood favors entero-mesenteric disorders considering that the alimentary canal is the focus of the vegetative process, being constantly subject to turgescence lympho-sanguina and hyperæsthesia, all centrally located in that fountain of alimentary activity, and hence its proneness to sporadic hyperæmia or symptomatic; to plethora, lymphatic engorgement, mal-assimilaiion and nutrition, asthenia, adynæmia and marasmus.

These various shades of the disease may become dangerous or even fatal, but more frequently it proves a propagator of lymphatic disorders over the whole system. It seminates the nucleos of constitutional discrasiæ. From such atrophy and hypertrophy we have a sequel of pathological lesions too numerous to mention. It is enough to follow the disease in its incipient stage to see what a myriad of complications it is capable of producing. My object is only to present clinical cases as evidences of my assertions.

CLINICAL CASE I.

Delano Ames, three years old, of a lymphatico-nervo temperament; his father is very small in stature and anæmic, having all the marks of that peculiar diathesis.

Physical Examination.—I found him generally emaciated, with small bones, narrow chest, large head, enlargement of the abdomen, prominent red lips, white skin, with fine light hair, large blue eyes, large mouth, and with the venous circulation very visible.

Semiology.—Pulse 130 per minute; general and continuous hyperæmia, with an afternoon pyrexia. Temperature 100. He was continually asking for water or meat; very irritable and restless; pale exhausted countenence, with flushed cheeks in the afternoon; anæmic; had lost the power of locomotion. There was no pain in pressing upon the abdomen, no glandular enlargement perceptible. He suffered with partial insomnia. As soon as he awoke he asked for meat and refused everything else.

He had frequent evacuations of the bowels of a greenish yellow color, mixed with mucous and fæcal matter.

The evacuations often changed the color to a brown and whitish clay, spongy, with an unpleasant odor; I took note of the fact that he was ravenous for meat.

The child had been sick for several months before he was brought to me, and his physician had diagnosed the case as one of helminthiasis. Of course the treatment proved not only a failure but redounded against the child's chances of recovery.

Surely helminthiasis has a good many symptoms in common with many other enteric diseases, but the salient points, and pathognomonic symptoms of this peculiar disease were certainly wanting. There was no dilatation of the pupil, no itching at the anus, no grinding of the teeth; he did not wake up with a start, appearing to be frightened by something; not the peculiar breath or stools; no whiteness around the mouth, no swallowing in his sleep, no choking sensations were visible. The absence of these symptoms indicated anything but helminthiasis.

Etiology.—The symptoms and pathological condition of the child did not arise from sporadic cause, but certainly from a well seated constitutional disease. In my examination of the case I could not find that the trouble could have been produced by either want of proper diet or hygiene, as the mother was an intelligent, careful and wealthy woman.

The teething was out of question, and I could not trace anything to malarious poisons or to meteorological influences. The true and only visible cause was an inherited scrofulous diathesis, which was running into a chronic discrasia.

The mother was strongly built, but deaf, and of an unusual large bony frame. She had black eyes, large mouth, and a large intelligent head.

She was inclined to plethora sanguina with a deep red corpuscular and fibrinated blood. She was very lively and good-natured. There was, if anything, a good abundance of lymph with a strong, healthy constitution to change it into blood and tissue.

The father was feeble, and suffered with a chronic affection of the laryngo-tracheal track, and looked as though laryngo-tracheal phthisis would sooner or later be the result.

He was predisposed to consumption, and leucothemia; whereas his wife was of a sanguine-lymphatic temperament, with plenty of vital and physical force. His frame and muscular development was defective, and emaciation had shown an evident want of nutrition. The child inherited his father's idiosyncrasis.

The objective symptoms of marasmus were evident in his physical development; the subjective were prominently observable in the paroxysms of hyper-exiæ, in the abnormal fæcal evacuations, in the swollen abdomen, thirst, hunger, emaciation, adynæmia, exhaustion, temperature of the body, mal-assimilation and nutrition. It was also evident that a normal metamorphosis of chyle was not going on; the proteine compound was defective, hence crude lymph and poor blood, and therefore the plastic force was insufficient. The enteric and lymphatic vessels were secreting weak and abnormal juices (Humorum-acremonia).

The lacteals and villi had the absorption and transmutation of these juices, and turned them into blood in an imperfect condition; hence discrasia. Adynæmia and asthenia were natural consequences from the general want of proper assimilation of the nutrients. The lymphatics, were atrophic, weak and incapable of performing their normal functions, and thus the whole process of organization was interfered with.

Such being the condition of the patient I looked dismayed at the negligence with which the child had been treated. The disease had already weakened the patient greatly, and I undertook the care of it with full appreciation of the difficulties and dangers attending it.

It was an imperative duty to select a nutriment that would be easily assimilated by the impaired and turgescent organs—without which no favorable progress could be expected.

The medical treatment was likewise of great importance, so as to calm without irritating, change without causing dangerous metastic complications and results elsewhere.

Medical Treatment.—The splanchic and the sympathetic nerves were in a state of complete exhaustion. The absorbing and secreting organs were deficient of nervous force.

Orgasmus was substituted by asthenia and enfeebled circulation ; then again, by subsequent paroxysm of pyrexia.

Now this state of transitory phenomena were gradually destroying the vital force, organic function, and physical equilibrium. It was necessary that we should employ medicaments which could have if possible, a specific effect upon the vaso-motory system and thus allaying irritability, turgescence and pyrexia.

I prescribed the following remedies:

℞. Atropa belladonna, 1-dec. grs. xxiv.
M. chart., xxiv.

℞. Barita mur., 3-dec. grs. xxiv.
M. chart., xxiv.

Dose—One powder every hour alternately.

I saw him next day and found that he slept better, had less irritability and better pulse. Yet the secretions were very unnatural and I believed a change or stimulous upon organic action was necessary.

℞. Natrum phosph., 3-dec grs. xxx.
M. chart., xv.

℞. Belladonna, 3-dec. gutt. xii.
Aqua fort., ℥ ii.

To be taken alternately every two hours.

On the fourth day I saw an improvement in the secretions and digestion.

The fæcal matter was more yellow and natural—no offensive odor, and less frequent. He was quieter, and the thirst and pyrexia had abated. At the same time I forbade meat entirely, and put him on cream, oyster broth, clam soup, beef broth with rice, bread without butter.

On the seventh day he was still progressing although he had had a relapse for twenty hours. I had him sponged in salt and water twice a day. Cold water in the morning, tepid water at night.

The belladonna had done well, and it was losing its effect perceptibly, so I gave him,—

℞. Pulsatilla, 3-dec. gutt. xii.
Aqua distill., ℥ ii.
℞. Merc. sol., 3-dec. gutt. xxii.
M. chart., xii.

Dose—One powder to every two doses of the pulsatilla. In another word I gave him two doses of pulsatilla to one of Mercurius.

He took the above for four days, and the progress was continuous. No more thirst, seldom any noticeable change of temperature, appetite more natural, stools only about four in twenty-four hours, more natural also. The eleventh day of treatment I ordered for diet, oatmeal boiled with cream and thoroughly gelatinized—no grains to remain undissolved, rice with cream, and beef-tea or juice, with bread, cocoa and milk in the morning.

On the twelfth day I prescribed

℞. Bismuth subnitr., 3-dec. grs. xxx.
M. chart., xv.
℞. Calc. sphosph., 3-dec. grs. xxx.
M. chart., xv.

Dose—one powder every two hours alternately. He was kept on these powders for three days.

I allowed him three days without medicines, so as to exhaust the action of those taken.

I saw him again on the eighteenth day. He kept his own, but it was evident that more medical treatment was required. I prescribed

℞. Liquor Potass-arsen., 3-dec. gutt. xii.
Aqua distill., ℥ ii.
℞. Capsicum, 5-dec. gutt. xii.
Aqua, ℥ ii.

Under these medicaments he improved greatly. The debility left him, he commenced to walk and play, slept well and ate regularly.

On the twenty-fourth day I changed his medicine for

℞. Ferrum peroxyd, 3-dec. grs. lx.
M. chart., xxx.
℞. Barita mur., 3-dec. grs. xxx.
M. chart., xx.

Dose—One powder every two hours, alternately.

It is to be observed that aconite was not used because there was no inflammatory condition. There was a passive hyperæmia but the tendency was to adynæmia and asthenia.

He took the above remedies for two weeks and by that time he was playing in the open air.

I gave him

℞. Aurum, 6-dec. grs. lx.
M. et devide chart. xxx.
℞. Magnesia phosph., 3-dec. grs. lx.
M. chart. xxx.

Dose—One powder every two hours alternately.

He took this medicine for eight days. I consider this not anti-scrofulous treatment but chemico-physiological, which expresses better our meaning.

Finally I gave

℞. Kali chloras, 3-dec. grs. lx.
M. chart., xxxx.
℞. Ferrum peroxyd, 3-dec. grs. lx.
M. chart., xl.

Dose—One powder every three hours during the day.

The dietetic and hygenic treatment remained the same. Treatment was kept up for six months, and the result was a cure.

CLINICAL CASE II.

George Henderson, eleven years of age, of a nervo-lymphatic temperament. He was brought up in a healthy country place. His mother and father were healthy. He had two sisters and both were healthy. His diet was what is called country food: good deal of ham and pork, fried meats and heavy unseasoned vegetables, like potatoes, squash, those abominations called pies, preserves, molasses, hot cakes, bread and teas. The buck-wheat cakes and the griddle and pan cakes were abounding on their table with sour cheese and cabbage, etc. The bill of fare was surely an anti-dietetic one *par excellence*, and particularly to a delicate child.

Physical Examination.—Large head, narrow chest, small stature for his age, white skin, blue veins, large mouth, large pupil. Heart's action irregular and irritable, its rhythms being abnormal without any organic lesion, its walls thin and somewhat dilated (dilatation without hypertrophy). Respiration very irregular, prolonged expiration with a quick short inspiration showing a deficiency in the pulmonary expansion and a difficulty of contraction. The expiration was diaphragmatic. There was a broncho-laryngeal cough with free expectoration and mucous râle; and on percussion and auscultation it was discovered that the bronchioles were getting filled with a muco-purulent secretion. The air cells could get but a small amount of air, and deoxidation was therefore imperfect; carbonization was prostrating the physical and vital forces to a great degree, hence fever, quick pulse, agitation, high temperature, insomnia, apepsia, hallucinations, etc.

The abdomen was swollen and painful on pressure, and adenoid prominences were clearly felt, upon a careful examination. The joints of the wrists, elbows, knees, and ankles were all swollen and painful. His legs were flexed upon the femor and could not be extended without much pain, and even then the hot swelling of the knee (subacute inflammation) was threatening serious lesion of the synovial membranes. He had also tumefaction of the submaxillary glands and finally there was turgescence and ichorous condition of all the lymphatic system. Structurally I believe the whole lymphatic system was hetero-plastic lymphoma.

From these outlines we can imagine the complications and threatening dangers to all the physical and organizing principles. It was a condition in which life was fundamentally undermined.

Semiology.—I found him restless, exhausted and sleepless. Pulse 115—temperature 102⅛. Great thirst, constipation and want of appetite and digestion.

He passed a small quantity of urine of a high specific gravity; strongly acid. His tongue was coated yellowish white of a slimy nature, and was tremulous and pale. He complained of pain in the joints and abdomen. Could not bear the bed clothes upon his stomach and abdomen, and he lay constantly on one side.

His sleep was disturbed by visions, and gave signs of enchephaloid hyperæstesia caused by excitability. It was an aggravated case and, complicated with vital derangements. The patient was emaciated to the last degree, and asthenia and adynæmia were evidently going on to a fatal issue.

The proteine compound was evidently disarranged by heterogenous elements, and the histogenetic metamorphosis was imperfect and insufficient. The blood and tissue making process became contaminated by physical mal-assimilation.

The cervicle and mesenteric glands were similarly tumified and turgescent.

The pancreas sympathized with the entero-mesenteric trouble and their physical relations were similarly affected.

The red corpuscles were few in number and the fibrin were lessened. The blood abounded in serum and white corpuscles, with a want of the plastic materials like iron, phosphated lime, sodium, etc., and thus the mould was radically changed and the principle of a higher development (vital and physical growth) was partly vitiated.

Etiology.—In examining these conditions of things, it was necessary to retrace our steps and examine the soil from whence such a deteriorated constitution arose. To a casual observer, I suppose, no one could see any indications of poor-health in the parents; they were well developed people, and apparently enjoyed good health, still, during the examination, I found that the mother had been a delicate girl; had suffered greatly with some glandular trouble, and her growth was slow and late. The other children, although well, had some peculiar features (idiosyncratic of a scrofulous constitution). Red lips with an unnatural white skin, long bones, large hands and feet. There was an anæmic condition of the blood, although there was not real emaciation.

The mother was a tall woman, well developed and quite fleshy; yet, she was lazy, tired and always complaining. There was a lack of physico-vital force. She was of a sandy color, hair fine and dry, light lifeless blue eyes, large head, thin long neck and large hands and feet. There was nothing of that ruddy complexion so common among healthy country people.

And indeed the necessity that compelled her to live in the primitive style, facing the storms of country exposure and work, the fresh air, activity, light, heat and electricity, supplied the deficiency of her constitution, and brought about those metamorphoses which were imperative to the progress of the great phenomena of physical development, and without which, she would have died of pulmonary tuberculosis. The phenomena of composition must be equilibrated by decomposition; and in reality, there can be no composition without the proper amount of decomposition. The process of growth springs from the physical activity of decomposition, and from *it* new forces and new formations.

Her marriage was also a new physical change, being followed by the act of procreation, thus forcing the organs into a physiological activity which demanded physical and vital organization and force. This brought about the elements of plastic force, and her whole physical process received that impetus, which either develops a static animal life, or else destroys the one that does not possess the spring of growth. The motion and hence decomposition kept up an organizing force due to her country life. The very germ of the mother was imperfect and lacking in those elements inseparable from a perfect physiological condition, and nothing, but the elementary principles of nature supplied the elements of organization and force, which were wanting to a great degree, in the very pabulum-vitæ.

Hetero-lymphoma, and atrophia lymphatica, arise from a defective proteine compound, hence proteinous disease. This is scrofula. This patient was a type of the mother and inherited her idiosyncrasis. The generally faulty physical organization rendered the system incapable of assimilation and chylification, so that the process of repair was not equal to the necessities of growth and waste, hence emaciation and general exhaustion. The causes from which this physical trouble arose, were unavoidable defects in the animal economy and composition. It was inherited and hence transplanted from mother to son.

Exciting Causes.—These were only additional evils, but not fundamental, and arose from the diet which was quite irritating and indigestible, of namely, boiled potatoes, ham, fried meats, hot bread and pies, hot cakes, coffee, tea, and pastry generally. These things could not be assimilated and a formation of gastric crudities was unavoidable, and therefore the chyle was weak and impure.

Medical agents employed alone in these cases will have no result, as the question is more physiological than simply locally pathological. The cod-liver oil and iron of the old school indiscriminately prescribed by the so-called rational doctors (Allopaths) would always result in sad failure unless accompanied by a svstematic hygiene and dietetic treatment.

Medical Treatment.—I considered the case a dangerous one and treated him with much solicitude.

℞. Belladonna, 3-dec. gutt. xii.
Aqua distill., ℥ ii.
℞. Mercurius Proto-iodid., 3-dec. grs. xxiv.
M. chart., xii.

Dose—one teaspoonful every hour, alternately with one powder and a warm bath every night.

I kept the patient on these remedies for three days with a light animal diet composed of broth and cream.

I found no improvement, but rather some discouraging symptoms of hallucination insomnia, much pain and swelling in the abdomen, without appetite.

I acknowledge that I was disappointed, yet I knew that a crisis must be the result of this profound physical malady. Bowels constipated, high fever and still painful joints. He showed considerable bronchial irritation with a general irritability of the sympathetic system and abdomen.

On the fourth day I gave him

℞. Atropa belladonna, 6-dec. gutt. xii.
Aqua distill., ℥ ii.
℞. Emplastrum Conii upon the abdomen with

℞. Aurum muriat., 3-dec. grs. xxiv.
M. chart, xii.

Dose—one powder every hour alternately with a teaspoonful of the liquid.

On the fifth day I found him more comfortable. He had had a better night, less fever, no hallucinations, free discharge of urine and bowels; abdomen less painful and less swollen.

On the sixth and seventh days the temperature was 99; pulse 100. He had thirst, and the secretions were better. He perspired freely and was comparatively comfortable. The hemlock poultice was renewed twice a day and gave great relief. He received the same treatment till he reached the tenth day and then he had an exacerbation, temporary, and without any apparent cause. I changed the remedies:

℞. Hysciamus 1-dec. gutt. xii.
Aqua distill., ℥ ii.
℞. Kali iodidi, 3-dec. grs. xxiv.
M. chart., xii.

Dose—one teaspoonful every hour alternately with a powder.

On my return I found him better, the fever having left him, the bowels moved and the glandular tumefaction was diminishing.

I kept him on this treatment for several days, and on the fifteenth day I gave him

℞. Podophyl, 3-dec. grs. xxx.
M. chart., xv.
℞. Aurum mur., 3-dec. grs. xxx.
M. chart., xv.

It suggested to me, the fever having left, and the irritability of the brain being overcome, that I had to look after the secretions, and in podophylum with aurum, I had two great remedies for both the absorbents and the secretions.

In two or three days I had the pleasure to see that the fæces were more natural and the urine less acid and less ammoniacal; the ichorous secretions were carried away and were changed.

The digestion having improved, the diet given was more generous and solid, viz., roast beef, beef steak, mutton, eggs, wine and cream, bread and cocoa, etc.

I continued for some weeks with aurum, belladonna and aurum, changing the medicines every week. On the fifth week I found nearly all the swelling of the joints gone down, the abdomen retracted, and almost natural, the daily fæcal discharges were regular and natural, and so I had him brought out in the open air on a mattress, put in a wagon and thus I kept him going out every day during pleasant weather.

His improvement was now rapid; his appetite ravenous and his general physical condition gaining rapidly.

I gave him during the sixth and seventh week

℞. Calc. phosphoric, 3-dec. gr. l.
M. chart., xxx.
℞. Ferrum peroxyd., 3-dec. grs. l.
M. chart, xxx.

Dose—one powder every three hours, alternately.

On the eighth week I left him apparently well and I only recommended generous diet, fresh air, exercise and salt water baths with occasionally iodized cod liver oil. Here we have a real homœopathic treatment and cure, because, were we to give such remedies to a well person (in a larger quantity) we would surely produce irritabilities of the gastro-enteric canal with pyrexiæ, irritability and general physical derangement. The plastic force would deteriorate through an histogenetie interference. I also predicted a return of the same trouble (less in intensity) as soon as the winter season would compel the boy to be closed in the house.

The prediction was fully verified. He had a return of the cough, the fever and the swelling; but with the same treatment in two weeks he was well again.

I gave him several other remedies, as magnesia phosph., barita carbon. natrum phosph., ferrum, etc.

CLINICAL CASE III.

John Bartlett, fifteen months old. His mother died soon after his birth and he was brought up by the bottle. The surrounding incidents were unfavorable, the mother being sickly during pregnancy and died of puerperal fever soon after his birth.

Physical Examination.—I found the child in the extreme condition of emaciation. His lungs were sound; the heart was normal organically and functionally. Stomach and bowels retracted without heat. His phycal development demonstrated general atrophy.

He had a large head, blue eyes, light hair and white skin, with a prominent venous circulation. Pulse 140; temperature 100. His bones were very small, and in truth, he had not grown since he was three months old. Asthenia and aolynaemia with turgescense of the lymphatic vessels and glands were decided evidences of the disease, in consequence of which great hypereasthesia existed. Perfect anæmia and enervation threatened the very foundation of his life.

I was called to consult with another physician who, after six weeks of treatment, acknowledged that he knew nothing of the disease. He treated the case for cholera infantum, under the impression that the frequent intestinal evacuations were sure indications of that disease.

Semiology.—When I visited the child I found him lying in his crib, looking almost like a skeleton, and more of a corpse than a living being. Great exhaustion had set in, which was evinced by his very posture.

His moans and feeble cries indicated great physical enervation. His legs were abducted, his arms thrown off his body, eyes shut, quick respiration, and too feeble to change his position. The skin alone covered the bony structure—no fat or muscles could be seen. He constantly called for nutrition (the bottle) and the more of the milk he drank the more he wanted. His bowels moved almost as frequently as he took nutriment. The unquenchable thirst caused by the hyperæmic condition of the digestive organs demanded a continuous supply of fluids. As soon as he had received the milk, he passed it off through the bowels in a sour and curdled condition.

The fermenting of the milk in the stomach produced carbonic acid, in consequence of which the child suffered with flatulant colic.

He would take nothing but milk, day and night, and its undigested condition produced symptoms of cholerine, but there were not the usual severe symptoms of gastro-enteretis of the cholera infantum.

On examination of the abdomen I found that it had no glandular swelling, no pain, and no heat; on the contrary, there was an evident condition of atrophy, in the excernent system.

The teeth were not visible; and the gums giving no signs of irritation. I found that the milk was good, and the child was also well attended; the atmosphere was hot, but there were no extreme meteorological diurnal or nightly changes; the weather was of course a source of exhaustive influence, but the true cause lay deep in the physical economy.

Etiology.—Taking a *coup d'œil* of the physical condition of the child, the objective appearances were only confirmed by the subjective symptoms—marasmus or entero-mesenteric atrophia.

The mother was feeble at the time of conception, being herself of a scrofulous diathesis; the act of procreation did not improve the physical conditions with her, as it did with our country matron whom we have studied in a previous case. The country matron worked hard and had the beneficial influence of perfect physical metamorphosis and reorganization, while this young wife was indulged, and lived in the depressing atmospherical influence of a southern climate and a retired life. The hyperæmia-lymphatica was inherited from birth, and therefore the proteine compound was actually in a state of retrogression, and the mal-assimilated chyle, prevented a normal process of histogenesis. The fault was fundamental and physico-vital.

Medical Treatment.—Doubtless milk was not the food for that feeble baby. The caseine, sugar, butter, and albumen were ingredients which the lymphatics would not thoroughly animalize, and indeed, before these nutrients reached the lymphatics, they were converted into imperfect chyle.

That emaciated child required animalized food (nitrogenous) with the triplo-phosphates to give plasticity to the blood.

1. It was a case of insufficiency in the elements of nutrition—milk ; 2, the physical compound (proteos) was deficient; and 3, physically unable to organize out of a watery fluid a sufficient quantity of the elements of nutrition and growth—(Histogenetics) hence the disease in question. It was suggested that the bottle be given up, naturally enough this was acceded to with great reluctance on the part of the attendants, but it was an imperative necessity.

℞. Belladonna, 3-dec. gutt. xii.
Aqua distill., ℥ ii.
℞. Camphora, 3-dec. gutt. xxiv.
Aqua distill., ℥ ii.

Dose—one teaspoonful of the liquid alternately every hour and a warm bath with salt in it.

Diet.—Beef tea, almost like blood; one teaspoonful every two hours. Burnt brandy with water; one teaspoonful every hour; rice water for a drink—at first he refused it and cried for a long time; then he slept and woke up refreshed. The beef tea was given without any trouble. The brandy he liked.

I called twenty-four hours after, and I found by a serious struggle we had succeeded in making him take the food. His pulse was better; he slept two hours; his evacuations were less frequent.

On the third day I found the pulse fuller in volume, less in frequency; the temperature was lower, the thirst had diminished and he did not ask for the bottle. Evacuations yellow, more solid, the carbonic gas inflating the intestinal canal, and decidedly diminished; and the child rested day and night.

It was advisable to change the medicament because it was not covering all the physical troubles, his evacuations being still too frequent with considerable fretting.

℞. Plumb. acetatum, 3-dec. grs. xx.
  M. chart., xv.
℞. Quin. sulph., 3-dec. grs. xx.
  M. chart., xv.

Dose—one powder every hour, alternately, till six at night, then

℞. Lactucasia, 1-dec. gutt. xxiv.
  Aqua fortis, ℥ ii.

Dose—one teaspoonful every hour during insomnia at night.

Sixth day: The grandmother was very much encouraged as the treatment seemed so successful; with a few little returns of excessive watery evacuations, the case progressed favorably.

I found my patient looking better, taking notice of his grandmother and hating the doctor as usual. The evacuations were only about eight in twenty-four hours; the urine was deeper in color and less in quantity. The food became rather tiresome to the child, so I ordered rice boiled in broth, and clam broth. As the child needed great invigoration I gave him phosphorus in glycerine—one teaspoonful every two hours.

℞. Phosphorus, 6-dec. gutt. xx.
Glycerine (pure), ℥ iii.
℞. Calc. phosph., 3-dec. grs. xii.
M. chart., xii.

He took the medicines for two days with great benefit, but the evacuations became too frequent, so I had to keep them under restraint.

On the eighth day I prescribed the phosphorus with a change in the place of the calcarea, viz.:

℞. Rheum et natrum 3-dec., grs. xxiv.
M. chart., xii.

To be taken alternately with the phosphorus every two hours.

The diet was also changed. I gave bread and broth boiled together for an hour, and then strained. I substituted milk punch for the brandy omitting the sugar.

The tenth, eleventh and twelfth days the case continued to improve and the nature of the secretions were much better under the effect of the Rheum et natrum.

Thirteenth day: I found him rather cheerful, and some indication of teething. Before, he was physically unable to form sufficient phosphate of lime to produce bone and teeth; and this sign was indeed an evidence of the good result of chemico-physiological principles which I adopted in the treatment.

The progress of the case went on with very few interruptions, and the bowels and the chylopœitic viscera became thoroughly disengaged from those elements of disintegration which were reducing the economy to a state of dissolution.

The dietetic treatment was somewhat varied. I gave him rice cooked in condensed milk, with salt and two grains of calcarea phosphorica in it.

He digested light cocoa, mutton broth and bread, sago, and a composition of peas, beans and lentils, strained in the broth, or even milk. The above three vegetables are what is called nitrogenous vegetables or leguminous food.

I proceeded by giving

℞. Magnesia phosph., 6-dec. gr. xxx.

Dose—one powder every three hours.

And ended with Barita carb., Ferrum peroxid, Aurum muriat. Calcarea carbonica, quinia sulph., kali arsenic, kali sulph., kali chloras; fresh air, bathing morning and night; cold water in the morning, warm at night. In six weeks the child was cured.

CLINICAL CASE IV.

A female child, about eighteen months old, of nervo-lymphatic temperament. She was almost in articulo-mortis. She had been sick for four months and treated by Allopathic physicians in good standing. She was well dosed and, most emphatically, empirically treated, i. e., Dover's powders to make her sleep and check the excessive evacuations, bismuth and pepsine, and gray powder, to use their word, as alteratives; ipecac and rheum in large doses, chalk mixture, and astringents, and thus it went on to a chronic stage.

The child was treated for cholera infantum, and then for marasmus; they had her at the sea shore and although she improved somewhat, the irrational treatment could not aid the vis-medicatricæ naturæ in its efforts against the disorder.

Physical Examination.—Lungs sound, heart's action very irritable and feeble, pulse thread like and very frequent (140), temperature low, breath offensive, and tongue reddish on the edges, white in the middle. No glandular enlargement was perceptible to the touch, heat, turgescence undoubtedly existed. Abdomen swollen, and full of gas, painful on touch and hot, eyes sunken, features shriveled and emaciated. The liver was enlarged and slightly painful. The general appearance was, that of extreme exhaustion and anæmia.

Semiology.—The child was in her mother's arms where she was accustomed to be carried around the room for hours, and thus she was kept comparatively quiet, but the moment the motion ceased the child would scream until the walking was resumed; she was moaning, but evidently not asleep. Every attendant was tired out, for they were on the go, day and night. The pulse indicated adynæmia, agitation, hyperæsthesia, in the highest degree, with asthenia following. She was ravenous for the bottle, and what is more, had it to her heart's content.

I was soon satisfied that I had a case of entero-mesenteritis cronica with hetero-plastic lymphoma. She inherited a scrofulous diathesis from the father and mother; both parents were delicate, nervous and feeble. She had a passage every fifteen minutes, which was watery and of a chalk color with curdled milk, sometimes greenish and sometimes mucous, but there was no biliary fluid in the evacuations. She had been overfed and kept on feathers in close rooms. All the enteric juices were ichorous, perverted and irritating. The physico-vital forces were in the most critical condition.

Etiology.—In examining the proximate and remote causes I found that the father was so nervous that his speech was often affected, his eyes showed a weakness (or a specie of scrofulous ophthalmia). His digestive organs were weak and suffered with dyspepsia. He had small blue eyes, light hair and a large head.

The mother was a brunette, with piercing black eyes, white skin, black hair and large mouth. She was very careless of her diet and very imprudent as to exposure. She was of delicate health and scrofulous; she had lost two brothers, one with hepatitis, another with consumption. The remote predisposing causes were inherited scrofula and a nervous idiosyncrasis. The proximate and exciting causes were over-nutrition, want of air and light, etc. (Induced causes).

The pathognomonic symptoms of struma from entero-mesenteritis were strongly marked. I could not find that the child's disorder had commenced with any plethora or enteritis; in that case her condition would have been the natural sequence of inflammatory dis ease of the intestines. If there had been any plethora in the first stage, it was undoubtedly lymphatic with turgescence and tumefaction.

When an inflammatory condition is first developed, if death does not take place, it is followed by asthenia, adynæmia and atrophy-lymphatica to a greater or less extent, and disorganization is the unavoidable result when such a morbid process is prolonged.

The secondary lesions of distant parts or organs, are the results of reflex metastasis, viz., the ameloid disorder, hepatic suppression, renal complications, serous secretions or pulmonic irritability, hyperæmia, and tuberculosis.

The idiopathic causes are sudden meteorological changes, malarial poisons, insufficient nutrition, abnormal milk, want of the proper diurnal ablutions and cleanliness, and teething.

Hygiene and *Dietetics.*—Having noticed the great anxiety of the parents, and their lack of judgment and proper conception of what was required by the sick child, and their total want of instructions by their former physicians, I immediately informed them of their duties and desired adherence to my directions. This mode of procedure was new to them and decidedly difficult to carry out.

1. The child should be put in her crib, on a hard mattress, so as to remain in an incumbent and comfortable position. 2. The room should be well ventilated, and when the child was awake to let in all the light possible. 3. A warm bath at night and a cold one in the morning. 4. Not to move the child from her bed, as motion, I considered, a disturbing element to the irritable intestines.

Milk was at once set aside ; mutton broth and beef tea were to take its place, and at intervals burnt brandy and sugar with water.

Medical Treatment.—I always consider belladonna as the great invigorator of the cardiac circulation and at the same time ameliorating ganglionic irritability, particularly that of the splanchnic and vasa-motor nerve.

℞. Belladonna, 3-dec. gutt. xxiv.
Aqua distillata, ℥ ii.
℞. Merc. solubilis, 3-dec. grs. xii.
M. chart., xii.

Dose—one teaspoonful every hour alternately with a powder.

On the second day I found the child had rested better; the bowels were more quiet, and contained more fæcal matter; she passed more water, which had more color.

Her skin was warmer, pulse stronger and less agitated; her general countenance was better; still the dangerous symptoms were yet existing only in a less degree.

I continued the treatment for twenty-four hours longer.

On the fourth day I found the patient very irritable and the evacuations as bad as ever. I suspected that they deviated from my instructions: they acknowledged to have given the child some milk and to have taken her out of her crib. I was at last satisfied that my advice was not ill-judged and that they had fully tasted the result of contrary doings. I, of course, repeated my advice only in stronger terms, and left.

℞. Lactucaria, 3-dec. gutt. xxiv.
Aqua distill.
℞. Rhei et natr. 3-dec. grs. xxiv.
M. chart., xii.

Dose—one teaspoonful of the liquid every hour, alternately with the powders.

Fifth day:—The patient was more comfortable. It had passed a good night; the evacuations were only few in number, of better color and contained more fæcal matter. The child was less ravenous and took what they gave her. The diet was continued and the medical treatment also.

Seventh day:—I found the child with a stronger pulse, a warm body, and fæcal evacuations. The passages were less painful, but they had an offensive odor. I was prepared to find nitrogenous undigestible excretions, so I gave her

℞. Carbo-vegatabilis, 3-dec. grs. xxiv.
M. chart., xii.
℞. Camphora, 3-dec. gutt. xxiv.
Aqua fort., ℥ ii.

These remedies were given on a therapeutical principle. The well-known effect of carbo-vegetabilis, so far as we know, is antiseptic, and prevents decomposition and fermentation. The camphora is an organizing element as its effects are curative in cases of syncope, in want of organic function in defective circulation and hepatic torpidity. It also affects strongly the motor sensory system of nerves.

Eighth day:—I found the secretions improved and the excretion not alarming; the child was now gaining strength and its digestive organs were quieted down under proper therapeutical means. Her tongue was of a healthful red and the flatulency nearly gone. The odor of the fæces changed for the better and the vitality of the patient was considerably increased, yet insomnia was still a great trouble. I prescribed for the ninth day

℞. Potass Bromidi, grs. xxx.
Aqua distill., ℥ iv.

Dose—one teaspoonful every hour at night until she fell asleep.

℞. Arsenic alkalizatum, 3-dec. gutt. xii.]
Aqua, ℥ ii.

Dose—One teaspoonful every two hours during the day.

Tenth day:—The child was still improving and laughed and played. Her evacuations were yellow, skin warm, appetite natural, slept well and cried but little; no fever and very little irritability.

Twelfth day:—Went on with the same medical treatment; but I changed the dietetic to condensed milk with brandy, beef broth with rice, and glycerine.

Thirteenth day:—Child still improving. I prescribed.

℞. Calc. phosph. 3-dec. grs. xl.
M. chart., xx.
℞. Pulsatilla, 3-dec. gutt. xxx.
Aqua, ℥ iii.

Dose—one powder every hour alternately with the liquid.

Fourteenth and Fifteenth days:—I continued the same treatment. I found that the child's whole organism was in a state of change; now I considered that the day of the crisis had passed and that the climax having arrived the disease was entirely under submission.

Sixteenth day:—

℞. Magnesia phosph., 3-dec. grs. xxiv.
M. chart., xii.
℞. Belladonna, 3-dec. gutt. xii.
Aqua pura, ℥ ii.

Dose—one powder alternately with a teaspoonful of the liquid.

The infant was still very much emaciated, and wanting animal heat which I knew her imperfect power of organization could not yet supply. I ordered

℞. Ol. Morrhua, ℥ ii. One half teaspoonful to be given in brandy twice a day; and also

℞. Ferrum peroxydum, 3-dec. grs. xxiv.
M. chart., xii.

Dose—one powder every three hours.

I continued this treatment for one week with perceptible benefit.

On the twenty-first day I gave her

℞. Liquor potass arsenic, 3-dec. gutt. xxiv.
Aqua distillata, ℥ ii.
And iodized cod liver oil (Fougera's).

She improved under this treatment; slept well, cut two teeth, became fat and strong and ate regularly. I allowed cocoa in the morning with condensed milk, meat at noon with rice and bread, yolk of an egg with water and brandy (without milk), beef broth and vermicelli or bread.

On the thirtieth day I ordered

℞. Ferrum peroxidum, 3-dec. grs. lx.
M. chart., xl.
℞. Calc. phosph., 3-dec. grs. lx.
M. chart., xl.

Dose—one powder alternately every three nours, changing with cod-liver oil. The seventh week she was entirely cured. Two important remedies which I used in these cases are, ipecac and plumbum aceticum: the first in great irritability, the second in great spasmodic pains. I also used oleum ricinis when great irritation and bearing down existed.

CLINICAL CASE V.

APHTEOUS DISEASE—THRUSH.

A baby of a few days old gave signs of pain in the stomach. He cried and refused to nurse. He was born under very unfavorable auspices. The mother when pregnant lived for several months before the birth of the child on bread and tea, and a few potatoes and pork. She was very poor and her husband made her poorer and miserable.

She came to my house and there gave birth to this child. When born he was very small and emaciated;

the cord was very small and indicated anæmia. He was fully grown as far as the bony structure was concerned, but atrophy mesenterica was the prominent pathognomonic feature.

Physical Examination.—The lungs were sound with feeble respiration. The heart's rythms were irregular and feeble. Large bones, small head and feeble pulse. The navel retracted in a very short time after birth, defective venous circulation (cyanosis), tongue coated white, which in a short time developed in aptheous form (Thrush). The mouth was hot and dry. He was at times very pale, at others, flushed and cyanotic.

Semiology.—Two or three days after birth the child refused to take the bottle. He cried a great deal and seemed to be in pain. I thought it was colic, from indigestible milk, and ordered lycopodium and natrum carbonicum. On the fourth day the child was apparently improved and nursed better.

When I saw him two days after he presented a new feature. He was shriveled like an old man; his eyes were sunken; he was cold and mottled with bluish spots. His breathing was slow, he cried a good deal and drew up his knees as though the abdomen hurt him. On examination I found his mouth full of those white specks, indicative of thrush or the premonitory symptoms of thrush. He vomited several times and gave me the idea that the disease was irritating the stomach, if it had not reached it already. I am convinced that he was born with it and that it was due to a great constitutional debility, disarranged assimilation, and fermenting principles, which always arise from want of proper physical organization; it, indeed, arose from an unorganized animal chymification. It was temporarily checked by washing the mouth with a solution of natrum bisulph. ʒ i to ℥ i of water.

R. Soda Borax, 1-dec. grs. xxiv.
M. chart., xxiv.

Dose—one powder every two hours. The mouth was washed after taking the bottle. The child improved for two or three days longer but the mother felt uneasy. His agitation, cries and apepsia, with frequent passages, gave the alarming pathognomonic symptoms of aphetous condition of the stomach and bowels. His abdomen was swollen and passed much gas. The evacuations were mucous with streaks of blood; the pulse was thready and the features indicated exhaustion and adynæmia. The fæcal matter was covered with a white aphteous matter. The treatment demonstrated from the various changes, that it was well chosen; had not the great physical disorder prevented nature from regaining sufficient vigor to overcome the disintegrating process of mal-assimilation, there would have been a hope of recovery. All alimentation was of no advantage when heterogenous formations were originated in the animalizing fluids themselves—heteroplastic-lymphoma. Proteous disease was unchangeable and beyond human power.

We must observe that this is different (pathologically) from follicular stomatitis or enteritis, which are conditions of much milder form, being idiopathic, or symptomatic, from some other cachexia, hence fomenting diseases; whereas inherited thrush is the result of animal dissolution like gangrene. I changed milk for animal food and gave him sulphurous acid, kali chloras, sweet oil, glycerine, etc., but only with temporary relief.

He died at the end of a month, having lived longer than any one could possibly imagine. He died of starvation and decay. He was a perfect mummy after death; even the bones seemed to have shriveled away (Aphteous-Neonatorum).

I have seen a good deal of this disease in Hospital children, where the little unfortunates inherit all sorts of constitutional taints. Much can be done for those cases which are idiopathic and available to treatment. We are indebted to Dr. Berg, of Stockholm, who made a microscopic research of the pathology of the disease in 1842, and to Dr. Jenner, who has suggested the treatment of sulphite of soda, which being decomposed by the acid of the saliva, it becomes sulphurous acid, which destroys the parasites.

CHAPTER VII.

ERUPTIVE DISEASES, SCROFULO-DERMA, MAL-ASSIMILATION, GASTRO-HEPATIC AND GASTRO-INTESTINAL ACRIMONY.

Efflorescence, pathologically speaking, is a significant term, full of meaning and closely applied to its purpose. It indicates—to break out, and is applied to flowers in bloom; it is indeed, the natural sequence of an inward fermentation (zymotic diseases) which must sooner or later creep through the lymphatic absorbents, and make its way to the surface, or within the cutis vera and the outer surface. There are many such diseases, of various intensity and virulency. Some are spontaneous, idiopathic; some constitutional and inherited, and others symptomatic.

They are the result of either vegetable or animal decay; from hydro-carbone or hydro-sulphurated exhalations, or from ammoniacal and nitrogenous mephitic exhalations (animal decay).

The vegetable or animal fungi are either spontaneously generated and existing in the protoplasma, or else introduced by effluvial gases proceeding from alluvial soils or meteorological influences.

These diseases may be indigenous, or brought from other places. They are the offsprings of uncleanliness and neglect. Sometimes are spontaneous, external, uncomplicated with any constitutional disorder. They disseminate rapidly where there is a prolific soil to invigorate growth, and climeric influences to assist them.

Moisture alone does not always produce malarious diseases; for in highly rocky places the most destructive effluvia is produced by the rain falling upon the hot rocks, whose crevices are full of fungi or animalculi, which being disengaged by the influence of the rain produce malarious gases; although moisture with vegetable decay forms combinations of gases poisonous in the extreme. And again, very dry atmospheres with electric influences combined, decompose animal matter, change animal fluids, and new compositions are formed which are deleterious to organization and life itself.

I find it necessary to confine myself to a certain class of examinations within the boundary of new cutaneous diseases. These are subdivided into genera, atrophia and hypertrophy of the lymphatic vessels and glands from which these various eruptions often originate, and also from gastro-hepatic and gastro-enteric crudities with neurotic complications. From these physio-organic disorders rise mal-assimilations and proteinaceous diseases.

There are a few idiopathic eruptions which are superficial, and that create but temporary disturbances, like erythema solares or simplex: erysipelatous inflammations from heat, cold, moisture, or chemical causes.

The second class are generally of an inflammatory character and they have a regular course, pathological peculiarities, and are not dispersed through certain physical morbid phenomena.

The third class are those that are inherited or produced by certain physiological disorganization, hence constitutional cachexia; these are generally chronic in their nature and tendency.

The anatomy and physiology of the cutis is as follows: 1. Dermis, a cellular canvas, dense and fibrous, protecting the capillary vessels, the lymphatics, the nervous filaments, and papillæ. 2. The organ of touch is formed by the termination of the nervous system. 3. The sudorific apparatus. The organs of secretion and excretion with the sudorific canals. This apparatus is composed of glandular parenchyma or spongy secreting glands, and the excretory canals arise among them as conductors of the sudorific fluid, which are the channels by which evaporation takes place. 4. Absorbents; these resemble the lymphatics. 5. The mucous apparatus. 6. The pigmentum.

It is manifest to the most casual observer that such a variety of actions and effects must necessarily be subject to a great number of derangements.

Doctor Plumbe observes "Of those deviations from health which we find frequently, diseases of the skin form no inconsiderable portion. Debility is the characteristic of a very large portion of these, while repletion and disorder of the digestive organs arising from irregular habits give occasion to many others."

And this theory confirms much that Hahnemann has said in his writings on Psora; but of course he was ridiculed and persecuted just because he had the courage to advance a new idea. Much that is obscure in Hahnemann's writings is due to German mysticism. They are on the one side fond of the profound and the inexplicable, while on the other they are often practical and materialistic; the two extremes are real German failings.

According to Hahnemann, every born human being had some kind of psora. Had this great reformer said that, in animal economy there was a latency for some dyscrasia which exists in the ichorous juices of the scrofulous diathesis, the statement would have been accepted.

But surely every child is not born with a psoric cachexia, nor scrofulous diathesis; it would be absurd to suppose such a thing.

Strumous diseases appear under a variety of causes and pathological lesions, namely, Adenitis, mesenteritis, ulcers, abscesses, ophthalmiæ, cutaneous eruptions, morbus coxalgia, tubercular consumption, etc. The diathesis of the patient, the predisposing idiosyncrasies, and the exciting and enduced causes, are so many factors in the nature, progress and result of the disease which should not be thought of lightly; and it is only when we make ourselves well acquainted with these sources of the disease in question, that a logical treatment can be arrived at with any chance of reasonable success.

These different species of disorders are well defined by pathological descriptions, and from that and a thorough knowledge of the origin of the malady we are prepared for a successful attack upon the enemy.

The acne simplex is an eruption of the sebaceous glands (meaning the summit of an efflorescent disease), has its pathognomonic symptoms both objective and subjective different from the acne punctata, indurata rosacea, yet the variety is the offspring of the same evil, namely, constitutional debility, and hence acrimony of the fluids which remain unorganized or mal-assimilated, to be thrown to the surface in some peculiar form according to the diathesis and idiosyncrasies of the individual thus affected. This, however, is not the psora of Hahnemann, which is generally a parasitic disease arising from vegetable or animal decay or the result of fermentation of either animal or vegetable matter, and hence animal or vegetable animalcules, impregnating the atmosphere and thus infecting the animal economy. Psora might also arise from want of cleanliness, from low and poor diet, and from inheritance.

But the acne requires only a simple and hygienic regimen, it seldom being necessary to have recourse to any medicine.

Although idiopathic and simple eruptions are often met and treated successfully, yet, at times they change and become intensified and complicated by some constitutional taint unforseen and unsuspected.

In these peculiar cases even erythema, the simplest of all the inflammatory eruptive diseases, may meet with some predisposing and latent dyscrasia and thus become an eczematous fermenting exanthema; and vice versa, an eczematous eruption may terminate in a simple erythema, so that we cannot well determine where and how one disease will commence or end. One form may commence from the simplest and end in a serious kind of exanthema simply from a constitutional cachexia. But these two genera are merely phlogosis, one being simply the higher grade of the other. Eczema solares and humidum proceed as their names fully indicate from meteorological influences.

We have no reason to accept the theory of Hahnemann "that all eruptive diseases proceed from a constitutional psora or taint," as our present knowledge has clearly proved the fallacy of such reasoning, and given us a differential pathology and diagnosis. There are plethoric eruptions, or rather eruptions proceeding from plethora, as well as from adynemia; and again there are also eruptions arising from both hyperæsthesia and asthenia, and are indeed constitutional—and yet they are not parasitic in their nature, and therefore pathologically speaking they differ widely from psora or the itch of Cullen.

Even a simple eruption obstructs, often, the evaporization of the body and thus interferes with the normal physiological process of the economy.

The idiopathic cutaneous diseases are classified as follows: sthenic and asthenic, neuro-sthenia, neurosis or adynæmia.

Women of great sensibility are prone to neuro-sthenia, others to adynæmia. These often suffer with cutaneous irritabilities and hyperæmia with more or less of some kind of eruptions, and the cure depends very much upon a correct diagnosis, as the causes are dissimilar, consequently the treatment must be different. Frequently such morbid conditions attack the genital organs, and we find women, especially those of a nervous constitution, suffering with vaginitis.

Scrofulo-Derma.—From this term we at once can place the morbid trouble in the lymphatic system and the blood.

The lymphatic absorbents of the dermis are frequently involved in cutaneous diseases, hence the name of scrofulo-derma; and these morbid conditions may be either acute or chronic: 1. Plethora lymphatica with turgescence, 2. sthenic or asthenic. The nature or type of the diseases and their peculiar classifications are the true mode of learning the pathogeny of morbid affections; and it is indeed particularly necessary in the great variety of cutaneous disorders. Here is where Hahnemann has erred in his great work on homœopathic practice.

In these cases of scrofulo-derma we find a condition of hetero-plastic disease diffused through the lymphatics, of an ichorous, crude, mal-assimilated albuminoids (Proteinaceous disease), and all the vessels, glands, and lymphatic ganglia are thus either atrophied or hypertrophied, giving those pathological evidences in the form of cutaneous diseases, and besides causing an hyperæmic condition of all the capillary vessels surrounding them, thus an acute or subacute capillary congestion is the result.

Much has been said about faulty-nutrition, chyme, and chylification, as the proximate principles of disorganization of the physical forces, phenomena and metamorphosis.

Inasmuch as the excernent and secernent systems have the absolute endowment of organizing the elements of nutrition, adding materials to the proteine compound, it must be obvious to us that when those absorbents and *refiners* secernent as it were, animalizing as the fluid proceeds, when these are feebly developed, or are surcharged with elements not assimilated, that the tissue and blood must be naturally impure,—hence scrofula.

Lupus Exedence from the non-Exedence.—The former is more confined to the head and face, and perhaps less intractable; while the latter extends itself from the neck, shoulder and arm; it is more virulent and has a longer period.

" Lupus exedence rarely attack the integuments of the chest, or the extremities; these are more frequently the seat of Lupus non-exedence."—Plumbe.

The divided opinion of medical writers upon this peculiar disease has been, whether it was of a scrofulous nature or free and disconnected from it. The question has been often discussed with more or less ability on both sides; but it is now regarded as a disease proceeding from a strumous diathesis, although, it may differ in certain objective manifestations, yet the pathognomonic symptoms are those of constitutional taint somewhere. It is said that many cases of lupus occur in people of sound health, and who have never suffered from any cutaneous or chronic troubles whatever. These are not points without a certain force to the argument. Lupus, therefore, is not per-se, a scrofulous disease, although they admit that it may be connected with scrofula and erysipelas or syphilis; but it is also argued, and with a strong sense of logic, that, even a pure, strong constitution may have subjective predispositions or latencies, which only require certain exciting causes to develop some of the most unsuspected dyscrasia, such as, tuberculosis, which afterwards develops into galloping consumption, cancers, malignant tumors, ulcers, diseases of the bones, etc. The acrimony of the gastro-enteric juices is really the factor of this malady; and these conditions may be inherited, excited or induced.

And why is it that this lupus exedence is to be found more frequently in people from the age of childhood to manhood, and seldom after forty? It is obvious that the lymphatic diseases are more generally developed in the tender age, and the age of development, than afterwards, when the physical and organic functions have fought the battle out, changed the ichorous secretions and returned to a comparative normal condition. Are not the young more prone to diseases of the alimentary organs and the vis-vitæ than older people?

Surely many a delicate person if he can only reach the other side of thirty or forty, is good for many years after, and the reason is well known to physicians. And again, those people who live on sour food, tainted meats, and breathe animal mephitic poisons are more prone to these diseases than those living in comfort. And we see also those that indulge in spirituous liquors, fermenting wines, rich, greasy, nitrogenous diet, suffer with gouty dyscrasia—or lithiasis; as well as those who indulge in delicacies, which render digestion and assimilation out of the question. They thus produce accumulations of acidities in the *primæ vie*, changing healthy chyme into acidulous chyle and thus the phenomena of physiological metamorphosis, is changed into an unspeakable fountain of anomalies. It is therefore, in my opinion, a disease of a proteous nature, or heteroplastic lymphitis.

CLINICAL CASE I.

Mr. B., age sixty-two, of a nervo-lymphatic temperament. Small frame but apparently well and wiry. He suffered no pain and no debility. He had a gray white cicatrix under his right eye extending to the alæ nasi; it was a thin shining skin which indicated a poor reticulated structure of the cutis, and its softness denoted a want of healthy tissue underneath. The eyelid was somewhat everted from the former corroding attack of lupus exedence.

Physical Examination.—The skin looked unhealthy.

The heart was frequently functionally irregular and excited; lungs were sound but the liver was torpid, and the stomach very delicate. The chylopoietic viscera was evidently disturbed in its organizing functions, and the animalization of the elements of nutrition was dedefective in the extreme. He had a large head and small grey eyes. I found a chronic enlargement of the cervicle and submaxillary gland.

He was always a good liver, and often abused the privilege of the table; smoked and used wines *ad libitum*. The capillary circulation was slow. He kept late hours, and confined himself to reading and intellectual pleasures. Years before he suffered agonies with a complete retrograde process of all the functions of alimentation; he became so much reduced in his physical and vital forces that his life was in eminent danger.

Semiology.—After a protracted illness of dyspepsia, which nearly carried him to the grave, he found that, without any preliminary symptoms, he had a small scaly eruption under the right eye, which when the little scab was removed, secreted an ichorous fluid, and that it had various points as large as a pin's head, hard and in clusters; he paid little attention to it until he found that it was extending and deepening.

His digestion was entirely out of order, but not so much so as it had been; however the disease made rapid progress and became very alarming, ulcerating a large space under the eye. He lost flesh and vitality.

His appetite left him and he became the victim of a morbid imagination.

Insomnia soon set in, and he resorted to all the panacea of narcotics, without avail, but rather with injury.

Etiology.—Scrofulous diathesis with a malignant dyscrasia. Predisposing cause, a sedentary life. Exciting causes, indulgence in the table, smoking and late hours. When I saw the gentleman he had had a return of it, fter twenty years of comparatively good health.

The hygienic law was thoroughly observed by himself. I only added salt in the water he bathed in and at times potassia, so as to add plastic force to the blood.

Medical Treatment.—

℞. Liquor Potass arsen., 3-dec. gutt., xii.
Aqua distillata, ℥ iv.

One teaspoonful four times a day; and locally I proscribed:

℞. Acid tannicum, ʒ sj.
" benzoicum, ʒ sj.
Collodion, ℥ ii.

This application made a protective emplastrum, which excluded the air.

He recovered, but is liable to a return at any moment, being a constitutional dyscrasia.

CLINICAL CASE II.

This is a case which is singularly interesting, being rather rare in practice, namely, acute-bilious eruptive fever.

I met this case at Norfolk, Virginia, during the war.

Physical Examination.—I found a large, well-developed man with good lungs and heart. I also found an enlarged liver painful to the touch. His kidneys were irritable and urine scanty, with heavy sediments of lithates and urea, specific gravity 1030—reaction acid, and at the same time containing biliary pigmentum. Pulse 130, large in volume and full in force. Bowels constipated, although he had taken much medicine for them. Tongue coated yellow, white and slimy, conjunctiva of a yellowish color. Skin dry and infiltrated with impurities, and here and there I found red spots as large as a five cent piece. He felt very sick and complained of restlessness and severe headache.

Semiology.—Fever, thirst, constipation, nausea, hot and cold sensations alternating, somnolence without rest or real sleep; fever worse at night. Dry skin, headache, dispondency, flatulency, etc. These accompanied with the spots above described completed the symptoms truly pathognomonic to hepatic congestion followed by capillary engorgements of the system, with impurities remaining in the blood. The capillary venous circulation in the liver was slow and the process of freeing the excrementitious elements of the venous circulation was imperfect, hence, biliary pigment in the urine, skin, conjunctiva and stomach.

The ductus communis was inflamed and tumefied in consequence, and the bile could not freely pass into the intestinal canal. There was retention as well as suppression, the latter as a physico-vital debility. The debility of the organ disabled it for the work of purifying the blood from the bile and other excrementitious elements.

Etiology.—The man had been exposed to all the vicissitudes of the life of a soldier, exposure to heat and cold, moisture and bad water and food. These causes were alone sufficient to bring about a certain amount of physiological disarrangement of the assimilating process. The liver suffered from anæmia and ichorous elements; its physical and vital feebleness prevented the organ from that activity necessary for the process of purifying and eliminating the effete materials from the venous circulation. These organic disabilities caused the fever, the eruptions and all the other complications.

Medical Treatment.—A warm bath accompanied by draught of warm water. Hot poultices to the liver.

℞. Natr. phosph., 1-dec. grs. lx.
M. chart., xxx.
℞. Belladon., 1-dec. gr. lx.
M. chart., xxx.

Dose—one powder every hour, alternately.

I must premise that the man had taken calomel and blue-mass *ad libitum* with castor oil, etc.

Diet.—Generous as soon as his appetite was restored but during the fever I gave him barley and rice water with milk.

Next day he had free discharges from the bowels of a greenish yellow color denoting a pungency and an acridity of the excrementitious elements sufficient to produce some physical disorder. He felt better; the pulse was softer and less in volume; he rested better, and the skin gave evidence of moisture. The urine was heavily laden with phosphates and ammonia.

It was evident that we were on a fair way to help the vis medicatricæ naturæ to throw out the invading poisons.

I continued the same treatment during the second day.

On the third day I found the patient much improved. Urine more abundant and lighter in color. Tongue partially clean. Bowels continue to move. Appetite slowly returning. Free perspiration. The headache left him and the pulse was much more natural. The spots were disappearing and the capillary congestion visibly diminished.

I kept up one bath a day and hot applications to the liver with occasional warm drinks.

℞. Natrum phosph., 3-dec. gr. xxx,
M. chart., xv.

℞. Bryonia alba., 3-dec. gutt. xxiv,
Aqua distill., ℥ ii.

Dose—one powder alternately with a teaspoonful of the liquid.

Diet.—Beef broth with vermicelli. Cocoa in the morning with toast. In the evening he was given rennet made in fresh milk.

On the fourth day all the symptoms and the fever with the portal and capillary congestion disappeared.

I prescribed

℞. Aloes, 3-dec. grs. xxx.
M. chart., xv.

Dose—one powder every two hours. One tumbler of Congress Saratoga water morning and night.

On the seventh day I ordered rare beef or mutton chops for dinner, port wine, beef broth with rice, and rice with milk. He did well and the case was discharged.

In connection with this case I must add another.

CLINICAL CASE III.

A boy of 12 years of age, of a bilio-nervous temperament. He had had several attacks of bilious derangements.

His sister and father suffered from organic disorder of the liver. His mother was healthy, and was of a lymphatic diathesis, and never suffered with that disease.

He came to me several times with digestive troubles, connected with biliary complications. The chylo-poietic viscera was obviously feeble, and assimilation imperfect, hence portal engorgement and synocal fever. These light deviations were easily treated and removed until he got wet during the predisposing month of September, and then he became dangerously ill.

Physical Examination.—I was called to see him after a few days of sickness had elapsed, and I found him in the following condition:

High fever, pulse 130, full, temperature 101, and skin dry and full of a yellowish pigment. Perspiration 25 per minute. Urine very scanty and of a brownish color, with a sediment of heavy phophates. Lungs were sound. Cardiac excitement. Stomach and intestines tender and inflated. Tongue heavily coated, brownish white and dry.

Liver enlarged and painful; joints painful and covered with reddish spots. His whole body and face was also covered with them. He suffered from insomnia and with great pain all over his body. A few days after my first visit I was taken sick and another homeopathic physician was called. He pronounced it meningitis and spotted fever, on the ground that the patient seemed to have tenderness along the spine as well as the spots. He attended him for a few days without success, when I became convinced of his palpable error of diagnosis, and took charge of the case. myself, and convinced him of his error and directed him to pursue my treatment as I was physically unable to attend.

Semiology.—Great thirst. Devoid of appetite. Pain all over the body, so much so that he could not be moved without suffering.

All his joints were covered with red spots and swollen. Bowels constipated, and secretions (for fæcal matter) were devoid of bile. Urine scanty. Skin dry. High fever and worse about four o'clock P. M. till midnight, when it abated. He was very fearful of his condition, and cried and scolded. His whole nervous system was in a state of irritability.

Etiology.—The predisposing causes were: 1st. Bilious temperament; 2d. The feeble digestion predisposed him to acrimonies of the excrementitious elements, mal-assimilation and impure venous blood: 3. Organic debility of the liver.

Exciting causes were irregularities in diet and exposure to cold.

From the nature of the symptoms and the pathological condition of the economy I pronounced it a case of bilio-rheumatic fever, accompanied by portal congestion and capillary engorgement.

Medical .Treatment.—As the patient had not been reduced by strong medicaments, I hoped that with a decisive homeopathic treatment and good judgment, the case would terminate favorably. I prescribed aconite and bryonia for twelve hours without the least benefit.

I continued the same treatment for twelve hours longer without any effect either on the fever, spots or liver.

On the third day I ordered a cataplasm of hot bran over the liver followed by

℞. Mercurius dulcis, 3-dec grs. xxx.
M. et devid chart., xx.
℞. Belladonna, 3-dec. gutt. xii.
Aqua distill. ℥ iii.

Dose.—One powder every hour alternately with a spoonful of the liquid.

On the next day he was somewhat better. The urine was more abundant. He perspired, slept better and the fever was abated—pulse 120. In connection with the above, I ordered hot marsh-malvadraught, as a diluent of the acrid secretions, having also the medical property of affecting rheumatic and various troubles.

The fifth day, having exhausted the action of the above remedies, I prescribed

℞. Aloes, 3-dec. grs. xxx.
M. chart., xx.
℞. Rododendron, 3-dec. gutt. xxx.
Aconite nap., 3-dec. gutt. xv.
Aqua pura, ʒ ii.

Dose.—One powder every hour alternately with a teaspoonful of the liquid. In connection I gave him half a tumbler full of Vichy water morning and evening.

On the sixth day he had three fœtid evacuations of the bowels. The urine was clear, pulse 100, tongue much improved, and the spots disappearing.

I left the case in charge of the other doctor, with the condition that he should pursue my course of treatment, varying only the remedies and giving magnesia phosphatis 3-dec. and natrum phosphatis as the finishing touch. The patient got well at the end of four weeks.

CLINICAL CASE IV.

Mrs. Van, age forty, of a nervo-bilious temperament, and of a delicate physical development. She had had three children, two of whom were living. Her work was that of a farmer's wife—hard and confining. She lived in the true rural and primitive style—simple diet, hard work, early hours, and a retired life. She was emaciated, feeble, and had a difficult digestion. Her appetite was poor and her bowels were constipated. She often suffered with hypochondriasis and paroxysms of nervousness.

Physical Examination.—Her complexion was preternaturally dark, the skin dry and furfuraceous. Heart irritable but healthy; liver hard and rather contracted; the nutrition of the organs was imperfect. Kidneys normal. Pulse small, and asthenia and adynæmia were prominent features in her general appearance.

Semiology.—Apepsia. Heavy feeling at the epigastrium after eating. Eructations, constipation insomnia, headache, want of energy, and a general feeling of malaise. Assimilation was imperfect, and the process of histogenesis was greatly enfeebled. Anæmic symptoms, namely, small wiry pulse, heart quick in action and capillary circulation very feeble. There was partial organic inertia of the functions of the liver. She complained of an itchy eruption over her face and arms, and sometimes covering the chest. She was very weak and nervous. She had no fever. Her tongue was coated white, and covered with a thick fur, and tremulous. Her general health was apparently disordered. She had spots of a dark reddish color over her face, and they were erysipelatous in their nature. They burned and itched after going to bed.

Etiology.—1. Physical feebleness. Her whole economy was below the average of a normal stand of force (inanition). 2. Her work was too exhausting for the recuperative process. 3. Innutritious food. 4. Tea and coffee *ad libitum.* 5. Confinement to the house. The origin of her pathological condition was want of peptones and of digestion and assimilation from physico-vital debility of the economy, increased by overwork and injudicious diet. This brought about emaciation, asthenia and anæmia (poverty of the blood and nervous exhaustion).

Taking the above description of the case, we cannot fail in our diagnosis. Anæmia and neuro-sthenia, both proceeding from a general low vitality of the whole organizing process. The liver was inactive from want of physical force, being, like the rest of the system, anæmic. The eruption proceeded from a capillary stasis or inability to push *vis-a frontis* the circulating fluid, and this was produced by portal and vaso-motor debility. Now, it was evident that the excrementitious materials could not be either normal or thoroughly eliminated. The functions of injestion and ejestion were greatly diminished, so that the whole economy was in a state of abnormal transition.

Medical Treatment.—

℞. Belladonna, 3-dec. grs. xxxii.
M. et fiat chart., xvi.
℞. Quinia sulph., 3-dec. grs. xxxii.
M. chart., xvi.

Dose—One powder every two hours alternately.

Hygiene and Dietetics.—A tepid bath with salt every other night. Generous diet—beef, mutton, old port wine and vegetables.

At the end of a week she returned already improved.

Second week I gave her nux 3-dec. and lycopodium 3-dec. She was evidently benefited by the treatment. The bowels moved regularly, appetite was better, pulse fuller and normal, and the tongue clear, the spots having disappeared. Yet she was anæmic and therefore I prescribed Iron peroxidi, 3-dec. and aloes, 3-dec. during the week. Diet and bathing the same. On the fourth week I prescribed natrum phosph., 3-dec. and ferrum peroxidum also the third trituration.

She recovered completely.

CLINICAL CASE V.

Mr. P., forty-eight years old, of a bilio-nervous diathesis, with venous plethora, namely, hemmorrhoidal tumors and portal feeble circulation. His constitution denoted feebleness of the co-ordination of organic functions, with adynæmia.

The peptones were defective in quantity and quality, hence emaciation.

The chemico-physiological process of digestion was seriously impaired, and the protean compound was wanting in animalization and force.

He had large hands and feet and was anæmic.

He suffered for years with hemorrhoidal tumors and fluxus hamorragic, which confined him to his bed for weeks on account of the loss of blood. His general appearance was that of cachexia and scrofula.

There was an evident lymphatic atrophy which interfered with the functions of absorption and secretion. The albuminoids were scantily and imperfectly assimilated, hence emaciation and anæmia, and at the same time the white corpuscles were greatly diffused through the blood (leucophemia) seriously impoverishing the process of animalization.

Physical Examination.—I found my patient in bed, looking fearfully emaciated and of a yellow-brown color, which gave me at once the thought of disease of the chylopoietic viscera, connected with organic disease of the liver. The liver was small, hard and tender. Abdomen swollen and tympanitic. Stomach retracted and tender on percussion. Heart quick and agitated and the volume did not indicate strength. The skin was dry and rough and filled with a brownish yellow pigment. Eyes dull. Tongue heavily coated. Temperature very low. Inanition from mal-assimilation. He suffered with an eczematous eruption and hemorrhoidal tumors, etc.

Semiology.—Weak pulse—90; temperature, 97. Apepsia, headache, insomnia, great exhaustion, cold extremities, pain in the back, eructations of a soury bitter nature, and unable to attend his business. He had constipation, urine heavy—1029, bilious and scanty, and hypochondriasis. He was miserable generally and was threatened with physical disorganization. He had small grey eyes, large head, intelligent, and of a scrofulous diathesis.

Etiology.—1. Physical debility and hence organic derangement. The feeble venous circulation predisposed him to engorgements and stasis of the portal circulation, due to want of force; the vaso-motor nerves were also wanting in activity. 2. The predisposing causes were a sedentary life, when young, being a school teacher. 3. Country heavy diet, want of proper bathing, excessive smoking and sleeping on a feather bed in a closed room.

It was indeed a complex case as the pathognomonic symptoms were organic and physical, nervous and sanguine. There were some organic troubles of the liver and lungs, atrophy and anæmia hepatica, also tuberculosis pulmonalis.

Medical Treatment.—Could any heroic treatment have availed here? would it have been at all advisable to prostrate his already small recuperative power? I believe any school of medicine would recognize and appreciate the difficulties which were certainly insurmountable by such a treatment; a treatment that demanded a stronger vitality and recuperative power.

It was obviously a difficult case to treat, where proper judgment would have to be exercised with the utmost care. 1. Reviving general principles of vitality and nutrition. 2. Diminish the venous and portal sluggishness. 3. Lessen nervous irritability. 4. Excite organic action. 5. Increase the process of injestion and ejestion. On these five points I began my plan of treatment.

R. Camphora, 3-dec. gutt. xxiv.
Aqua distill., ℥ ii.

Dose—one teaspoonful every hour.

Capillary Stasis.—The pathogenesis of camphor shows the symptoms of prostration, coldness, weakness of the cerebrum, burning at the stomach, irritability of the genital organs, and increase of biliary activity. This remedy I found a great agent for vital exhaustion, organic enertia and vascular inactivity. It acts at once on the heart, cerebrum, secretions and vascular system. At the same time I ordered sheets wrapped round the body, which had been previously wet in tepid salt water.

Hygiene and Dietetics.—Beef broth and rice, clam soup, oyster broth, birds, eggs and wine. The sheets were left upon him until full reaction took place; then he was to be rubbed and covered with blankets.

On my return next day I found that the patient had slept well, and that he felt more comfortable. His pulse was softer, slower and fuller. The treatment was pursued with the aim of producing a derivative action to the surface through the process of ejestion of the excrementitious matter.

The fourth day I found my patient sitting up and looking as though there were two great agencies at work, and he patiently awaiting the result; one inanition, the other the inherent vis medicatricæ naturæ. Both existed, and the question was whether the dynamic force would be sufficient to kindle a few more sparks of vitality and thus increasing, as it were, atomically the physico-vital forces. These are times when the physician stands bewildered looking on the great struggle between nature's process of re-organization and support, on the one side, and decomposition and decay on the other.

In this condition of great physical transition, the phenomena of nature's resources are most wonderful and often secure recovery.

Medical Treatment.—

℞. Belladonna, 1-dec. gutt. xii.
Aqua distill., ℥ ii.
℞. Phosphorus, 3-dec. gutt. x.
Aqua distill., ℥ ii.

One teaspoonful alternately every two hours.

Here we have two great agents: belladonna the great vaso-motor re-invigorator, and phosphorous, the vital force invigorator.

I had a good opportunity of observing the effects of these two agents, and indeed, I was fully convinced of their perfect medicinal restorative power.

The gentleman was now on the sixth day of the treatment, and the line which was so narrowly separating life from death was happily passed. The belladonna and phosphorus together with a pre-existing hygienic and dietetic treatment brought about the vital re-action by forming new sparks of life, and so new elements of force were added to the ebbing vitality. It is indeed a great source of satisfaction to feel that your cares and anxieties have been so happily rewarded.

Eighth day. Now I considered the patient out of danger, but how much strength he would gain was a question beyond human calculation.

Having been two days on belladonna and phosphorus I let the agents have their full scope of action upon the system.

I omitted the remedies, and gave him solid food—Beef-steak, roast beef, wine, eggs, game, etc., with a sponge bath every night at the temperature of 75.

Tenth day. The impetus once given, together with the anti-inanition dietetic treatment, a great salient point was obtained. I ordered

℞. Phosphorus, 3-dec. gutt. xxiv.
Aqua distill., ℥ ii.
℞. Aloes, 3-dec. grs. xl.
M. chart., xx.

Dose—one teaspoonful of the liquid, alternately with the powder.

The aloes I used for its specific action upon the hemorrhoidal veins and portal circulation.

Fourteenth day. The improvement continued without intermission. He was able to go about the house and felt much invigorated. I ordered him out to drive in a soft cushioned carriage. His digestion improved; assimilation and histogenesis became more natural. His pulse became stronger, he slept well and his brain grew stronger and more active. He also improved in looks; the skin lost that yellowish brown color. The capillary circulation gave evidence of having become normal. The liver and eczema both were on the road to recovery. The lungs did not trouble him, but the seed of the evil remained permanently located there. The bowels moved regularly.

Sixteenth day.

℞. Ferrum peroxidum, 1-dec. gutt. lx.
Aqua distill., ℥ iv.
℞. Natr. phosph., 3-dec. grs. lx.
M. chart., xxx.

These medicines he continued for two weeks with a decided improvement.

At the sixth week I gave him Acid hydrochloric and Magnesia phosph. at different times. I then added more of those elements of which the system stood in need: e. g. Quinia, Nux vom., Bismuth and Bryonia.

During this time he had resumed business and looked a different man.

CLINICAL CASE VI.

A young man, twenty-four years old, of a fine physique, perfectly healthy, who took great deal of physical exercise by boating, hunting and fishing.

His trouble was a disease in the matrix of the nails growing normally for a short length, then dividing or separating in two, and thus becoming brittle and breaking off close, making the finger look unnatural. His mother was a delicate, nervous woman, with more brain than physical force to support it; she suffered for years with cracked fingers at the tip, and at times with small reddish spots on the body. She was anæmic, and generally feeble. Assimilation and absorption were difficult and imperfect, hence her constitutional difficulty. I prescribed for the young man

℞. Silicia, 3-dec. gr. lx.
M. chart., xxx.
℞. Hepar. sulphur, 3-dec. grs. lx.
M. chart., xxx.

Dose—one powder every three hours alternately. In two months he reported well.

The mother I treated differently. I gave her

℞. Natrum-phosph. et quinia sulph., changing for
℞. Ferrum peroxidi, 3-dec. gutt. xxxx.
Aqua distill., ℥ iv.

Dose—one teaspoonful every two hours alternately. Again,

℞. Magnesia phosph., 3-dec. grs. lx.
M. Et fial chart., xxx.

She improved in general health; and the cracks filled up. Her color became healthy as her digestion improved.

℞. Pulsatill., 3-dec. gutt. xx.
Aqua distill., ℥ iv.
℞. Lycopodium, 3-dec. gutt. xx.
Aqua distill., ℥ iv.

Hygiene and Dietetics.—Bathing in hot water and bicarbonate of potass twice a week, I concluded the treatment with fresh air, country life and improved diet.

In her case the treatment was to supply those properties which were needed. She had evidently lost much of those substances that are necessary for the formation of plastic materials, and the acrimonious secretions had produced an indescribable change in the blood. In her son's case there was a natural deficiency of the silicate and sulphate of lime, and by adding the silica and hepar. sulphur the case was cured on a physiological principle.

CLINICAL CASES VII, VIII.

Two children were brought to me suffering from crusta-lactea. They suffered with intense itching which produced much nervous excitement, debility and fever. It is generally accepted that the milk is the source of this evil; its fermenting principles, its caseine and butyric acid being so many elements predisposed to ichorous eruptions.

Surely, the elements of nutrition and the process of digestion and assimilation are deeply involved in the organization of the animal economy, thus a poor nutrition can only have as a result an enfeebled physical development; but again we must also admit a certain proneness of diathesis, predisposing the system to impurities and accumulations of the excrementitious materials, and this is the lymphatic diathesis. The idiosyncrasis of this system when largely developed is invariably that of increasing the absorbent process, without, at the same time increasing the ability of ejestion, thus predisposing to plethora lymphatica, adenitis, and eruptive diseases.

This theory is sustained by facts, and is based upon practical truth. The mother of one of the infants was scrofulous, and the other having happily more vitality, was endowed with a healthy lymphatic organization.

In both cases the children suffered alike, although by inheritance the symptoms were different. One had a defective and feeble organization, the other had abundant force, both physical and vital. The delicate child and the strong one, both suffered from two extremes.

It is obvious, therefore, that the two cases should have been treated differently; and for this very reason it is that, an empiric treatment is in all schools of medicine considered dangerous and unscientific.

Medical Treatment.—For the first case, I prescribed both for the mother and child,

℞. Calc. phosphorica, 3-dec. grs. lx.
M. chart., xxx.
℞. Ferrum peroxid., 1-dec. grs. lx.
M. chart., xxx.

Dose—one powder to the mother every two hours alternately.

To the second I prescribed a vegetable diet for the mother, and the following prescription for the child.

℞. Graphite, 3-dec. ʒ i.
M. chart., lx.
℞. Kali carbonic, 6-dec. ʒ i.
M. chart., lx.

Dose—one powder every three hours alternately; and to the mother Vichy water every morning.

Hygiene and Dietetics.—To the delicate mother it is hardly necessary to say, a generous diet was prescribed and deemed as a part of the treatment: beef, mutton, oysters, birds, nitrogenous vegetables, cocoa, milk punch with Jamaica-rum, and salt water baths; and the following medicinal agents were from time to time given:

℞. Magnesia phosphorica, 3-dec. ʒ i.
M. chart., xxx.
℞. Ferrum peroxid, 3-dec. ʒ i.
M. chart., xxx.

Dose—one powder every two hours, alternately.

And to the strong healthy mother the prescriptions were reversed: vegetables, fish and light animal food, with plenty of exercise and ripe fruits. I gave her baby

℞. Calc. phosph., 3-dec. ʒ i.
M. chart., xxx.

℞. Natrum sulphur, 3-dec. ʒ i.
M. chart., lx.

To be given first one, and when that was exhausted, begin with the other.

These children both were cured and the mothers' health also improved.

I sometimes found carbolic acid glycerole, or zincum oxydum glycerole good adjuvants for local applications; they soften the scabs, prevent the itching, and keep the air from irritating and causing more suppuration.

CHAPTER VIII.

USEFULNESS OF ELECTRICITY.

From my experience, and that of many medical gentlemen in whose field of practice electricity has been employed as a therapeutic agent, I have no hesitation in saying that it is one of the greatest panaceas for diseases of the organs of digestion and assimilation. It imparts force, motion, composition and decomposition. It increases heat, oxidation, circulation and organization. It changes the juices, increasing absorptions and secretions. It eliminates the materiæ morbi through the excrementitious matter. It extricates organic engorgement and releases the organs from sanguineous stasis and torpidity of action, thus setting a vis-a-tergo-physical force to re-adjust physical equilibrium.

Notwithstanding the quackery which unfortunately has been obscuring much of the virtues of electricity as a medical agent, having diminished its well deserved reputation on account of the ignorance with which it has been used and abused; yet it retains its usefulness in diseases when properly applied.

To secure success it requires several points: 1. Knowledge of its action, 2. Knowledge of the disease where it should be applied, for it cannot be used in all diseases indiscriminately, and 3. The proper current and its strength. It is indeed an agent of great value in rheumatism (not inflammatory), in gout (not acute), in neuralgia, in apepsia, in jaundice (hicterus), and in paralysis. As electrolysis in surgical operations, for tumors and polypus, in calcareous deposits in the joints, and in fact in all the cases of locomotor ataxia, asthenopia, diploplia, etc.

With this agent, I cannot refrain from mentioning another which is well-known and yet little used by the profession, namely, water. In acute eruptive diseases, in fevers of an inflammatory type, in inflammatory rheumatism, pneumonia, bronchitis and weakness of the digestive organs where the excretions are sluggish and strongly charged with animal poisons producing either exanthem, or organic pathological conditions, it may be used with excellent results. This agent is one of the best as an anti-pyretic and acts directly upon the different vessels, as well as upon the process of injestion and ejestion by quickening the activity of the absorbents and secretory organs. It relieves general plethora, sanguineous suggillations, and equalizes the physical with vital forces as well as the temperature of the body.

With this agent we can combat yellow, typhus and typhoid fevers, scarlatina, measles, paludal fever, pernicious fever and all malarial diseases. The reason is obvious, namely, that water properly used disengages the animal economy from the absorbed poisonous molecules of the effluvial gases, and eliminates them through the excrementitious matter in shape of urea, biliary secretions, lactic, carbonic and uric acids, and through the secretory and sudorific organs of the skin.

The use of water is to be carefully estimated before subjecting a person to its influences. We must consider, 1. The general physical condition of the patient. 2. His strength and idiosyncrasies. 3. The nature of the malady and the reactive force of the patient. 4. The temperature of the water must be according to the patients constitution, nature of the disease, age, sex, habits, season, etc. With these preliminary steps and cautions, water can serve as a great medical agent.

With it we must combine a suitable diet and medicinal treatment. I recommend these two great agents particularly to the Homœopathic physician, because rationality is his only course. I deem it necessary that the study of the process of alimentation should have a distinct chapter devoted to it in this work, because the proper dietetics is a thing of great importance to the sick, and invalids, being the pabulum upon which the recuperative process of nature greatly depends.

CHAPTER IX.

THE DUAL EFFECTS OF MEDICAL AGENTS.

THIS is not, perhaps, a theme totally new or altogether unknown to some of our writers on materia medica, and therefore I do not presume to enter fully or in detail into the subject; I simply desire to call the attention of both schools to some salient points which are of great interest and usefulness to the practitioner of medicine.

The subject might have been broached, possibly, by abler men than myself, had it not been for the fear that they might be ridiculed. Let us walk forward, no matter if a few shallow-brained fellows cannot understand us and therefore delight in abuse and misconception.

The vagaries of both schools are so great and their intolerance of anything that is foreign to their teaching is so overbearing that they would even shut their eyes to the grandest of discoveries were it to interfere with their theories. But it is possible to show that the faults of both are glaring and easily visible. One has the fault of an endless symptomology, in which if true, one medicine would be sufficient for all the diseases that "flesh is heir to." The other is crude and has tried to simplify the practice by classifications which are constantly at variance with the pathogenetic effects and therapeutical results of medical agents; both are erring in the main from the true spirit of physicians, and are therefore antagonistic, bitter and sectarian. A unity of action and generous effort in the great work of scientific medicine would be more becoming and beneficial to both.

Why Hahnemann should have thought of a new school, and the then dominant school should have banished a man who desired to show them a new problem, is really difficult to divine. When we think how little, from a practical point of view, we have advanced, and how difficult is the progress of medicine, we should be more forbearing toward one another. at least for the sake of the human family. With a liberal spirit for the common cause, we should go forward in one arduous path, and work our way with the well-settled truths, that to heal the afflicted was one of the great missions of the Redeemer, and we should follow him without questioning or gainsaying. It is our most solemn duty to accept truth and knowledge, for they have been given by the Omnipotent himself to those whose understanding has reached that degree, and wicked indeed it unquestionably is to refuse to look, hear or be told. We are surely reaching another inquisitorial phase in our medical history, but, thank God, there are men strong enough on both sides to annihilate this assumed " non possumus " of late days.

It is also unquestionably admitted that the toxic effects of medical agents were the first indications of their pathogeny upon the animal economy, and from that rough framework our books on poisons were constructed.

These morbific outlines were of such great interest that from them grew the study of the agents in smaller and safer quantities; by the varied and numerous interesting researches from all the civilized world, their properties and effects upon the human system were ascertained.

Inasmuch as the possibility of learning a great deal to our advantage in this field was demonstrated without a shadow of doubt, many a generous government established institutions of public learning, free to all and at public expense, since the benefit was to be universal, (a true humanitarian idea) and thus botanical gardens and botanical chairs of learning were established, from which our materia-medica originated, and we were thus able to arrange in some sort of scientific order, all the mixed and unintelligible gibberish of the old alchemists.

It was from toxicology that we have received our first knowledge of the nature and morbid effects of certain agents upon the animal economy. And by the use of them in such quantities as would only produce temporary disturbances, we have ascertained their modus operandi as medical agents.

This mode of procedure brought about further inquiries, thus the physiological action of these agents was discovered, with perfect safety to the system. "Beck's Murray" says: "Medicines operate by exciting to action the general system, or the particular organs on which they work. They have further than this no specific influence or properties, but are adapted to the removal of morbid affections, by producing excitement (partial or general) with certain degrees of rapidity and force.

"When medicines are thus determined to particular parts, they are either directly conveyed, by being received into the blood, or their action is communicated indirectly from the stomach by the medium of the nervous system; and in both ways important local effects are produced."

But yet, these gentlemen have never demonstrated from what principle these cures were expected or obtained, except by stimulating, urging, pushing and forcing nature to bring about her vis medicatricæ-naturæ, and thus overcome the morbid disorder that may be disturbing physical harmony of action. If stimulating the physical forces alone was sufficient, then the problem would soon be solved. But we must have drugs whose specific action upon diseases may be ascertained by their pathogenetic similarity to any given disease, and thus they prove to be useful as therapeutic agents.

"It would not be advisable to give opium where quinine is indicated with any reasonable degree of common sense. No one would dream of administering camphor for capsicum or belladonna, although they are all nervo-stimulants; they would bring about excitement both physico-vital and physico-organic, but, perhaps not the desired effects. Again the physiological school say you must give a remedy that is fit or adapted by its known properties and effects to every specific disease. How are we *to know* whether belladonna acts more specifically upon the vaso-motor nerves than camphor? I answer, because it creates a rash and a congestion; it stimulates all the capillaries, etc.; but these are some of its pathogenetic effects, and how are we to expect anything else than an increase of the disease if we give a medicine which is known to produce similar mischief or disorders. 'Never mind that,' says the physiological school, 'do not give camphor, or quinia where belladonna is the remedy.' But poor Hahnemann, when his bright genius saw the plain and simple truth, and dared to say 'the action of all medicines is on the principle of similarity,' he was treated as Galileo Galilei, when he dared say 'E pur si muove.'"

But truth is as great now as then. The medicine whose pathogenetic effects or symptoms resemble more those of any given morbid affection (or natural disease), is truly a remedy of confidence and to be relied upon in neutralizing the morbid phenomena arising from natural causes.

And I would further say, that to substantiate this truth, we need not Hahnemann's observations, but we have only to refer to Allopathic authorities who recognize the facts in their own way, but neglect to teach them as laws of similarity.

Doctor Edward J. Waring says: "Almost every drug operates differently when given in large and small doses. Tartar-emetic for example, in doses of 1-12th to 1-16th of a grain acts as a diaphoretic and an expectorant; in doses of ¼ to ½ of a grain as a nauseant; and if carried to the extent of two or three grains it proves a powerful emetic. A very similar series of effects is produced by graduated doses of ipecacuanha; recent observations, indeed, tend to show that this drug in very small doses acts as a powerful anti-emetic."

"The neutral salts aperient in large doses, and diuretic in small; opium as a stimulant in small doses, and a narcotic in large ones; and the oil of turpentine in doses of fl. drm. i. to fl. drm. ii. acts as an acrid irritant of the kidneys and genito-urinary organs, whilst in a dose of fl. oz. i., and especially combined with castor oil, it operates freely on the bowels without producing any renal or vesical irritation. These are but few examples out of many which might be quoted; but it may be observed, generally, that most of the medicinal substances whose operation is mild and beneficial in small doses, may be converted into powerful poisons by being administered in large quantities."

But why has not this able physician gone on with his subject and told his colleagues the rest of the grand discovery, which I premise by saying that it was known and taught by Hahnemann? Why not tell them more of the principles of affinity, polarity and attraction of medical agents? of the atomic force and molecular attraction? And this brings us face to face with the facts, that, a solution of a fluid is only a larger extension of its atoms.

And that a disintegration of a solid from its cohesion is only a separation of its atoms. Matter, therefore, be it vegetable, metalloid or alkaline, is divisible into three forms: gaseous, fluid and solid; in all three, there is the same weight and number of atoms.

The only difference exists in the form or manner of division, i. e., solution, trituration, decoction, etc. And in support of this theory we know that the only difference between water and steam is that the latter is water swollen by heat to 1800° to one cubic inch. But this is not all; chemistry says "that from a simple and great principle of H. C. and O. N. arises organized matter," yet other elements enter often, like sulphur and phosphorus, and perhaps many more unknown to us. What is important to know is not so much the change of materials or components as the change of shape and position of the molecules which in reality change the nature and grand phenomena of organic matter, the illustrations of molecular structure thus far studied have been mostly taken from those classes of compounds long known in chemistry under the name of acids, bases, and salts, and they were selected because it was with such substances that the old theory had almost exclusively to deal. But, as I have already said, the strongest evidence in favor of the new theory is to be obtained from a class of substances about which the old chemistry knew almost absolutely nothing. The class to which I refer is formed of the compounds of the elementary substances and carbon. The number of of known compounds of this element is far greater than that of all the other elements together, and these exhibit a greater diversity of their molecular structure, which is often highly complex.

As a rule they consist of a very few chemical elements besides carbon, hydrogen, oxygen and nitrogen, but the number of atoms united in a single molecule may be very large, sometimes even exceeding 100.

Carbon is peculiarly the element of the organic world, for, leaving out of view the great amount of water which living beings always contain, organized material consists almost exclusively of carbonaceous compounds.

Hence the substances, with exception of a few of the simplest, were formerly called organic compounds; but, although the cause which determines the growth of organized beings is still a perplexed question, we now know that the materials of which they consist are subject to the same laws as mineral matter, and the complexity may be traced to the peculiar qualities of carbon. But within a few years we have succeeded in preparing artificially a very large number of what were formerly supposed to be exclusively organic products, and not only this, but the processes we have discovered are of such general application that we now feel we have the same command of the synthesis (combinations) of organic as of mineral substances.

The number of elements which enter into the composition of organic compounds being so restricted, i. e., C. O. H., it is evident that the immense variety of qualities which they present cannot be referred solely to the influence of a simple radical $C. O._2$ which they contain.

In the simple compound $C. O._2$ there are the elements C. O. H. N. bonded together, but the last two, i. e., H. N., neutralize each other. There are then compounds in all single medical agents, the radical being the basic substance, which is represented by quantivalence, and its variation changes the nature and the effect of the element in use.

The following is an example: from ammonia gas can be derived a large class of compounds, in all which nitrogen is trivalent.

And similar preparations can also be made with phosphorus.

But although they all contain the same atoms as a nucleus, the two classes differ from each other as widely as if they were composed of different elements.

"Returning now to our comparison," says Professor J. P. Cooke, "between H. O. N. and $H. O. N. O._3$ we shall describe the relation of the molecules in a few words by saying that the acid and the alkali had molecules of the same general structure, but differed in that the radical of the alkali was the elementary atom (potassium), while the radical of the acid was the atomic group, N. O.[2]

"And again, first butyric acid is an oily liquid with whose smell we are only too familiar, since, when formed in rancid butter it imparts to this article of our food its peculiarly offensive odor. Further, as its name denotes, it has the qualities of an acid." Utterly different from this offensive acid is the second substance, which we call acetic ether, a very limpid liquid, with a pleasant fruity smell, highly volatile; yet butyric acid and acetic ether, have exactly the same composition and the same vapor density.

ANALYSIS OF ISOMERIC COMPOUNDS.

BY GRUNZWIEG, *Butyric acid.*		BY LIEBIG, *Acetic ether.*	
Carbon,	54—51	Carbon,	54—47
Hydrogen,	9—26	Hydrogen,	9—67
Oxygen,	36—23	Oxygen,	35—86

And this will add strength to our subject, which is that in order to change matter organic or inorganic it is only necessary to have a change of molecular arrangements. From a nourishing, healthful butter, we have it changed into a poisonous, acrid acid; and that true science has found that molecular movement and division give force and activity to matter. It is not shown that artificial medical compounds can add, but on the contrary they often detract from the object in view. All simple products are nevertheless compound elements, but then activity depends upon the radical product, be it sulphur, or tannic acid, or ammonia, atropine, caffein, the active principle will be the predominating force radical in the product itself.

Thus simple remedies, well known and well subdivided so as to separate their molecular activities, are a correct principle based upon a chemico-medical ground.

To return to our study: we know the effect of a certain medicinal dose. The quantity, then, determines the effects toxic, pathogenetic, stimulant (or physiologic), dynamic. The first we have nothing to do with. The other effects are sufficiently known to justify the classification.

But why call this a hypnotic, that an alterative, the other an emetic or nervine, etc., when we know that such cannot be stated, except with only partial truth.

Opium is both hypnotic or soporific and stimulant. In coma produced by general physical disorder opium is almost a specific.

In coma from renal troubles opium is also a great agent. Why? Because opium's pathogenetic effects show its sphere of action, e. g., brain, kidneys and circulation. When those organs are similarly affected by disease, opium releases them (in small doses) from the morbid influences. We never forget, however, to potentize it, thus developing its molecular activity.

Having stated these facts in the first part of my work, I only apply them now in support of the medicinal and dual action of medical agents.

In conclusion, it is an undeniable fact, that when a large dose of any medical substance is capable of producing morbid symptoms, with similar symptoms (from natural causes) a small quantity of the same agent is sure to bring about a reaction, thus neutralizing the morbid phenomena. This is called the law of similarity. Although in diseases of the gastro-enteric juices the question will be met more on a chemico-physiological ground.

Unquestionably the quantity necessary to produce certain effects has been and will always be a speculative, open question, according to idiosyncrasies and temperaments; but the curative principle must invariably be that of similarity, notwithstanding. This is an infallible rule, and the true beacon-light in the right direction. And it is undeniable that Similia can only succeed in her claims by showing practically that what has been stated is correct beyond question.

Doses must naturally differ, for the very nature of the medical agents themselves demands a difference.

Let us take quinia, for example, the king of antiperiodics, yet not always successful. One to five grains is the dose given by the dominant school. I shall find no fault with them, for I use it myself in nearly the same quantity. It all depends upon the severity of the symtoms.

And this very agent in large quantities produces, according to Doctors Waring and Pareira, cinchonism. They say "Within the first two hours xii grains of quinia produces a marked excitement with tension and throbbing head-ache, morbid sensibility of the eyes to light, buzzing and ringing of the ears, vertigo, unsteadiness of gait, and some excitement of the heart, a sense of internal agitation and general excitement; the face is flushed, the skin is warmer, and the pulse and respiration are more frequent, and massive doses are often followed by delirium.

"Again the reaction sets in and aphonia ensues, the heart and pulse become *feeble*, and the *temperature* of the body *falls*.

"Finally, a prolonged use of quinia may cause a diminution of the *red* globules, and an increase in the proportion of fibrine and water in the blood (Leucophemia)."

Now, then, very little more would give us the whole outlines of the regular malarial intermittent fever; and just here we must stop and reflect that such symtoms, such pathological analogy between chills and fever and the pathogenesis of quinia is a striking illustration of the truth of what has been asserted. At the same time some sceptical reader may say that all this is very well and sounds right, but where are your infinitesimal doses ? Once for all, I reply, infinitesimal quantities was a Hahnemannian idea, which he connected with therapeutics, but has nothing to do with the law, which he only followed by logical deduction from facts, indisputable then as now.

While it cannot be admitted that infinitessimal doses of medicines are at all connected with the law of therapeutics of Similia, nevertheless it is true that by our new process of division of molecular activity, a much less quantity of medicine is required and better results are constantly obtained, and it is perfectly proper that all physicians should study how to cure with the least quantity of medicine, and not how much they can give with impunity, forgetting the danger of re-action, frequent failures, and the want of science connected therewith.

Thus one-tenth and five grains of quinia are perfectly compatible with the above-stated law, because the medicine is not a rank poison, and it requires considerable to produce any pathogenetic disturbances, and because in malarial diseases we have a malarial poison which requires a sufficiency of the medical agent in neutralizing its morbific influences. Although smaller doses do often answer as well in the common simple intermittents.

My rule is to use 1-dec. of a grain and to increase it gradually to one and five.

The same may be said of ipecacuanha. In large doses it produces either vomiting or evacuation of the intestines, together with a gastro-enteric irritation.

It produces irritation of the nares, larynx and bronchi. It affects the nervous system and has proved a good anti-periodic at times. The dominant school uses it pretty much as the new school, except that with a thorough study of its pathogenetic effects the new school prescribes with more knowledge and better success. Subdivision is a mode, as we have already demonstrated, to separate molecular matter and to bring every molecule in connection with the part extended to be treated.

Phosphorus and ammonia are two remedies frequently used in phthisis, pneumonia and bronco-pneumonia. Who can deny the effects of these two agents upon the air passages? What pharmaceutical preparations are better adapted to each case is left to the general intelligence of the physician. There are many preparations of ammonia, namely, carbonate, chloride, acetate, etc. Phosphorus, likewise—phosph. of ammonia, calcarea phosph., kali phosph., etc.

These agents have been lately introduced in different forms: phosphites and sulphites of soda, ammonia, phosphites of magnesia and soda, or substances in which potassium is the base. These are great blood elements and would soon disorganize the blood, producing anæmia and phosphate diseases.

In small doses they have been found by Professor Polli to be great remedies for all diseases arising from a foment; we must not forget that in such conditions they act as chemico-dynamics, because, although in large doses they may disorganize the blood, they could never produce a zymotic disease, but the effects and results would be similar.

Astonishing as it may seem, the parallelism between alkaloid substances and acids is chemically true, as it is chemico-physiological.

The therapeutic uses of the acids taught by the learned Dr. Prout to his own school and colleagues, were known to the practitioners of the new school and used by them before they were even thought of except as chemical re-agents. Indeed, it is a fact of great therapeutical value that where the phosphates of soda, ammonia, lime and potassa are indicated as dynamic remedies (or physico-dynamic), that phosphorus, or phosphoric acid, nitric, sulphuric, hydro-chloric and acetic acids are also indicated. The analysis of isomeric compounds opens our eyes to these facts, namely, that in a medical sense the base being either sulphur, nitrate of potash, phosphorus or ammonia, these would be three active substances in forming disease, and thus determining their action.

The prolonged uses of acids, mineral and vegetable, produce morbid influences well known, of physical organic disorganization, and although they differ in proximate principles, they are nevertheless strongly related by their ultimate elementary products.

Their pathogeny differs as to intensity, locality and affinities. They are chemico-physiological agents of great importance in therapia.

" Sulphuric acid is a frequent refrigerant, cooling and diminishing the temperature of the body through its astringency upon the capillaries. It improves the tone of the taxed mucous membranes and stops excess of evaporization and extravasation of blood (or purpurea hemorrhagica). It acts upon the liver and kidneys like all acids, promoting oxidation and ejestion. It adds force to the gastric juice, leaving to it its oxygen.

These symptoms, seemingly so very desirable, are soon changed (by a stronger preparation of the agent) into pathogenetic symptoms, i. e., ulceration of the throat, mouth, larynx, tharynx and stomach. If continued, gastro-enteritis would soon take place, and in addition the solids of the body would become affected, neutralizing the supply of lime from the blood.

Our second agent, hydro-chloric acid, acts more upon the gastric juice and liver. But this very useful substance would produce disarrangement of the same organs when in a healthy condition.

Nitric acid is a powerful escharotic and is mostly used in malignant ulcers, in diphtheria and in gangrene. It is useful in syphilis, in glandular enlargements and turgescence. It is given to promote absorption, and improve cachexia. It is used in all those cases where kali-iod., iodine, chlorine and lime are used, and even creosote.

It is unnecessary to describe every acid and its peculiar pathogenetic effects, for the profession is well aware of their therapeutic influence.

In small doses they are indicated in all those pathological conditions which would be liable, in large and continued doses, to be produced and therefore their pathogeny and similarity of symptoms in disease, are the two main indications of their medicinal agency. In typhoid fever, slow remittent fever, diarrhœa, hematemises, eruptive fevers, in phthisis, trachealis, in apepsia, in glucosuria, in gastric fever, etc. Their effects by pathogenetic doses cannot be denied to resemble low specific diseases and to be excellent remedies when prescribed on their own indications and symptoms.

Classifications like heamatica, corrigentia, stimulantia, tonica, sedantia, narcotica, antacida antiseptica, etc., etc., are empty expressions which are of great injury to the student, because when he learns these by heart he thinks he has all the materia medica and therapeutics at his finger's ends. It will be seen by every good physician that every drug ought to be studied not only from its toxic, but also its pathogenetic, physiological, general, and special effects, its organic and systematic affinities, and then compared in diseases both general and special. By such a scale of comparative pathological studies of both natural and drug disease, surely the resemblance between the natural and the artificial symptoms will be striking and unmistakable indications for the selection of the remedy.

No fair minded student of the science of medicine can fail to see the strong analogy and natural logic of such an axiom. Practical common sense is the leading feature of the law of similarity.

Veratrum viride is called by the dominant school the king of sedatives, similar to aconite, tartar-emetic, antimony, etc. Now such a word as sedative has not a signification corresponding with physiological uses and effects. But they say what would we think of an agent that diminishes the pulse and the heart's action and capillary congestion? What would we say of a stimulant which would have the same result in the course of a few hours? How is hysteria or spasmodic action controlled by brandy, ammonia, capsicum, strychia, nux, ignatia, etc.

We answer that the name of sedative in a medicinal dose is a misnomer; the result of the medicine is named, not the agency from which that result was obtained. Veratrum, aconite, tartar-emetic, opium and stramonium are stimulants (in small medicinal doses) and from that the excited circulation, the bounding heart, the throbbing head are quieted through the effect of a stimulating influence upon an excited condition of the vasomotor and cerebro-spinal nerves. The result is sedative, through an influence and agency of an active medicine, thus neutralizing the tremor and hyperæsthesia of the nerves and blood vessels. Just so the influence of stimulants will tranquilize when hypersensibility and excitability exist, if such doses are used as accord with the strength and nature of the remedy and the individual.

Dr. Waring does not give an explanation of the action of veratrum, in varying doses, but only in the abstract, as a sedative of great power, namely, a depressant which diminishes the arterial circulation.

And as parallelism is not mal-à-propos, I beg the liberty to compare Dr. W. H. Burt's "Characteristic

Materia-medica on Veratrum," and Dr. Waring's action of the drug; thus we get a good idea of who is the best authority and most reliable writer.

Dr. Burt says, "Veratrum viride selects for its centre of action the cerebro-spinal system, bringing its greatest force to bear upon the pneumogastric nerve and by paralyzing its functions produces congestion and inflammation in every organ and tissue to which it is distributed. This action can be better explained by saying that the vessels become engorged with blood by lacking that propelling nervous force which the agent has thus paralyzed, and hence central, or cerebral, pneumonic or cardiac stasis.

"Diseases that call for these remedies must have their starting point in the cerebro-spinal nerves."

The pathological changes which veratrum viride is capable of producing are due to the microscopical researches rendered by Dr. Adams. This microscopical examination of the brain revealed intense capillary congestion.

"The convulsive centre is located in a limited space on the floor of the fourth ventricle in the pons-varolii." We found great capillary congestion of the pons, and this solves the problem why veratrum viride is so valuable in spasms of a congestive nature. In puerperal convulsions that have for their origin some emotional cause and when there is some excessive cerebro-hyperæmia, veratrum viride is, of all remedies, the first to be thought of.

The Doctor says further, "aconite, although acting on the same organs and tissues, spends most of its force on the spinal filaments of the vaso-motor nerves of the capillary blood vessels, so as to produce congestion in every tissue in the body that contains capillaries (such are the parallelisms of the two greatest agents of the materia-medica) while veratrum only affects the great centre of circulation."

Still another interesting comparative analogy exists between veratrum viride and belladonna, and although similar in their sphere of action, yet the pathogenetic disturbances and influences are totally opposite, and the result may be looked for with considerable confidence. Veratrum viride prostrates organic functions and circulation, in its morbid action (sensible doses) by its paralyzing effects; belladonna on the contrary produces the same morbid phenomena by an entirely different train of symptoms, namely, by its stimulating and exciting cerebral congestion.

The explanation can easily be arrived at without great difficulty, and is as follows: Veratrum produces inflammation and extravasation, through the sudden paralyzing influence of its toxic effect, and cuts off the vitality from which the vessels receive activity and motion, namely the nervous force, thus producing almost apoplexy.

Belladonna produces an inflammation, turgescence, and congestion, by exciting nervous *force*, thus causing hyperæmia of the blood vessels.

As we do not accept anything but facts, we are not troubled with delusions. The way to employ these three remedies is clear and logical, namely, by the general and specific law of similarity upon the organs whose functions are morbidly affected.

Their duality of action primary and secondary, the first pathogenetic, the second therapeutic, will accord with the different pathological lesions and symptoms belonging to each agent and disease.

If we have cerebral congestion and great nervous tension, resulting from traumatic reflex action, together with a tonic spasmodic contraction of the muscles from which circulation and nervous reciprocal action are wanting, veratrum in small doses is the remedy. But in congestion from an over-excitement of the nervous centre or sympathetic system of nerves, belladonna would be the remedy.

So the dual action of medicines is a well established fact. The only true way to find their right employment is to study their pathogenetic influences, and the morbid symptoms of the natural disease.

In puerperal fever, in trismus, in cardiac paralysis, in cerebro-spinal meningetis, in pneumonic hypostatic diseases, veratrum would release the equilibrium of central circulation by its influence upon the cerebro-spinal plexus, i. e., the pneumogastric nerves. Belladonna acts more upon the sympathetic and vaso-motor nerves when circulation is disordered by excitement.

Glonoine, like veratrum, will release a decided neurotic congestion which proceeds from nervous tension and spasmodic irritability.

Aconite-glonoine, veratrum viride are analogous, just as opium, belladonna, stramonium and hyosciamus are similar.

Carbolic and Salicylic Acids.—Both these substances originate from carboniferous sources, and their isomeric chemical compounds are strikingly suggestive as to their relation in a therapeutical sense. Their having decidedly beneficial medical effects is now unquestioned. One is extracted from coal tar, the other from charred willow wood. Such carboniferous substances are of a pungent escharotic nature, depressant, exciting, stimulating and irritating, affecting the whole general system, and having decided effects upon organic functions and physical and dynamic forces. They are found in the blood, and affect the absorbents very greatly. The nervous system becomes also sensibly affected from centre to periphery.

They affect the brain, the organs of respiration, the kidneys, the gastro-enteric fluids, and the nervous system, with a great muscular relaxation, besides aphonia joined with considerable irritation and excoriation of the larynx, tharynx, trachia, stomach and bowels. Such are the well known generalities of the morbid effects of these elements upon the animal economy.

Hahnemann in his experiments calls the attention of the profession to the modus operandi of carbo-vegetabilis, which, although used by the old school as an anti-acid, and in dyspepsia, is otherwise not used except as a disinfectant in cases of putrefying wounds or tumors.

But our old observer went to the trouble of testing the drug, and found it an antiperiodic and antiseptic and an anti-zymotic. It induced cardialgia, great depression of the organs of generation, paleness, intermittent pulse and want of proper oxidation. And if these prominent symptoms mean anything, I presume they mean a general disorder of the co-ordination of organic functions and physico-vital phenomena. The symptoms are those of a slow but steady retrogressive change in the general process of organization and physiological activity. The blood and nervous system become decidedly devitalized and anæmic. This devitalizing element suggested the idea that in zymotic or fomenting blood diseases it would stop the disintegration and the retrograde metamorphosis of physical organization.

When an effluvial or alluvial poison has produced typhus or typhoid fever which have a tendency to destroy the organizing principles of life, i. e., the blood, the nervous system, the gastro-enteric juices, and finally, all that is organic in functions and repair, become as it were, changed from the remotest nucleus to the proteinaceous compound. The plastic formations of the blood become impossible, and hence, loss of corpuscles, increase of fibrine and water. The saline principles which form the viscid, gummy fluid thus holding together the elementary principles of plastic matter, pass off the body unassimilated, and hence the whole fabric falls to pieces for want of building material. In these cases and in chronic diarrhœas, ulcerations, diphtheria, etc., our carbon vegetalis or mineralis are agents of unquestionable affinity and force of action.

Medicine to-day stands exactly like new and old chemistry; related, and yet distinctly simplified; changed while the basis and the elements in use are still the same.

And without going into a dissertation of a chemico-physiological nature, I should unhesitatingly pronounce these two remedies as the most promising elementary substances in the treatment of zymotic disease, be it scarlatina, measles, diphtheria, croup, infectious or contagious diseases like cholera, yellow fever or malarial and insidious cerebral fevers, pernicious and congestive inflammations, either cerebral, pneumonic, abdominal or laryngeal.

The pathological effects of carboniferous exhalation, in various degrees will cover a ground with which we can easily compare the pathological conditions and symptoms of all the above diseases.

The pathogeny of these remedies is the guiding star, the quality of their action exists in tangible doses producing diseases similar to those that have been described and in dynamic doses, destroying them when present.

The two elements differ in intensity of action and therefore must be given in different doses. But I should not hesitate to recommend salicylic acid from one-tenth to five grains, carbolic from three-tenths to one-tenth only (internally).

And I feel that if I have not convinced all my colleagues of both schools of the truth of duality on the principal of similarity, I nevertheless have opened a fair field for dispassionate and scientific discussion upon the broad basis, Similia similibus curantur.

The great truth of the duality of action of medical agents, could be even better and more practically illustrated by the primary and secondary action of alcohol.

Every one knows the exhilarating sensation of a drink of champagne; many remember the sensation of suffocation, burning heat in the throat and stomach and cerebral excitement of the first dose of strong wines or spirits. It excites the pulse, it quickens the imagination and renders every capillary subject to receive an extra amount of blood from the great centre.

And these temporary amenities grow in a degree according to the use or abuse of the agent. Hilarity is well known to all and there is a greater degree called over-excitement. From these degrees we go on further into the field of excess and intoxication. From a simple exciter, in large doses it becomes narcotic; it benumbs the muscular activity, it decreases organic functions, and the heart becomes slow and weak in activity, and full of venous blood. The circulation is thus disturbed, the brain becomes as if narcotized, loses its force, and is in a turmoil of disordered co-ordination; hence stupidity, or vague and foolish hallucinations, etc.

The nervous system becomes feeble and trembling, and hyperæsthesia sets in, which is demonstrated by want of mental power, apepsia, agitation, fear, excitement and unreasonableness.

The hair becomes white, the nutrition is abnormal and evanescent, having no real stamina, either physical or vital. And if continued it results in (delirium tremens), imbecility, and general adynæmia.

In this short sketch we have, in a general sense, the primary and secondary action of alcohol. And from these outlines we can easily select our agent for the diseases in which it is therapeutically indicated.

We cannot question its great usefulness in certain diseases either sthenic or asthenic, acute or chronic. It produces (in sufficient doses, and continually used) those very morbid conditions varying in degree and character, according to the idiosyncrasies of the patient.

General Stimulants.—They exalt the sensibility of the nervous system, the action of the muscular fibre, as well as that of the mucous membrane. They augment the strength and frequency of the heart's pulsations, give vigor to the play of the lungs, and raise the temperature of the whole body (primary action). Modus operandi : "Amongst the most important, if not the most important, of the actions of alcohol, in a therapeutic point of view, is the influence which is produced on the circulating system. That the administration of alcohol increases the power of the heart, diminishes the frequency of its beat, and augments the force of its contraction, under conditions of its debility, are facts which must be familiar to all who are in the habit of prescribing it. And there is nothing more striking and more satisfactory than to watch the effects of the remedy in those cases of asthenic inflammation which are marked by a rapid and weak pulse. Under its use we see a pulse, abnormally quick, gradually fall ; we see an irregular one become steady and regular; we see delirium subside, and tongue, foul, dry or brown, assume a moist and healthy character."—*Waring.*

Far as I am from considering any school of medicine perfect, or consistent in all things, yet this is too great a discrepancy from the antiphlogistic treatment used and propounded by the Broussanian-school of France. And it is so glaring a departure from old theories that even Dr. Waring says "Within the last five and twenty years a great change has taken place in the views of the majority of medical practitioners in this country on the subject of stimulants in the treatment of acute diseases."

And with this testimony, undeniable as it is, I cannot find any practical explanation of the therapeutic mode of action of alcohol.

But I believe that facts cannot be denied by one even prejudiced against a school, such as a stimulant is to be used in inflammatory diseases, in sthenic diseases and in nervous affections. Now on what principle can such a remedy act, except that of similarity in lesser or greater degree? In examining the diseases of alcoholism, we find doubtless all the phases from its beginning to its end—from mere excitement, hyperæmia cerebralis, to violence and congestion of the brain. From simple hilarity to agitation and convulsive movement down to prostration, asthenia and typhoid condition.

It is not for want of candor that many of the great thinkers do not speak, but I believe they hold their peace from fear of offending their colleagues.

The truth of the action of these remedies is too strong to believe that it has escaped the attention and notice of the able authorities of the old dogma.

I should not do full justice to the Allopathic profession, if I should not give them credit for this great discovery. But at the same time I must premise, that, physicians of the new school fully recognize the importance existing in the proper use of alcohol in diseases.

And, it would also add much if we had a distinct line marked out when and how to use these remedies.

Tweedies says: " 1. It sometimes happens that when a patient in fever has been progressing favorably, the pulse becomes suddenly soft and compressible, the skin cool and damp accompanied by a feeling of considerable exhaustion; with these symptoms, there need be little hesitation in allowing six or eight ounces of wine in twenty-four hours, at proper intervals. 2. When the symptoms denoting sensorial disturbance, languor, low muttering delirium, tremor subsultus, are progressively increasing, and if at the same time the patient lose his strength from day to day, the pulse becomes soft and skin cool. 3. Alcohol should be used when the fever assumes the petechial character (typhoid, putrid, malarial, remittent, intermittent, continued). 4. And also in cases of sudden collapse, some with stertorous breathing, melancholy, mania, with inclination to murder—delirium, hallucinations."

I should also add pneumonia, second stage of scarlet fever, small-pox and diphtheria.

In chronic diarrhœas, and in suppurating wounds, etc.

Alcohol as a Remedy and as a Nutritious Substance.—It especially arrests destructive mal-assimilations, so that for a certain period, during the stay of alcohol in the system, less urea, less phosphates, less water are excreted by the kidneys; less carbonic acid by the lungs, and less digestion goes on in the alimentary canal.

"But at the same time, they give rise in the body to defensive re-action which is prominent first, and then gives place to the special action."

So that if a suitable quantity be taken, and both action and re-action are allowed to exhaust themselves before the dose be repeated, there will be a positive gain in vitality, "but if such a large quantity be taken that the re-action is overpowered (or the forces diminished) the body is not renewed, because its effete particles are not removed."—*Burt.*

APPENDIX.

NUTRITIVE CONSTITUENTS AND ALIMENTATION.

The nutritive constituents of the numerous articles of diet, their nature, proportions and agencies in the great process of alimentation, is obviously a study in which every medical man is interested, and with which he should be well acquainted, thus facilitating the selection of articles containing those properties which the physician considers necessary to supply the deficiencies existing in the economy during a condition of transitory physical abnormalities. At the very first we can see the difficulties in forming a correct diagnosis as to what is needed by the idiosyncrasis of the patients constitution, and the difficulty in selecting the materials which contain the true elements that are required by the economy when in a condition which is considered out of equilibrium. Without this knowledge, our profession would be a sad failure indeed, in her very first principles of restoration.

I need not dwell long on this subject to persuade the profession of its usefulness; in diseases, as a restorative principle—in health, as a preventative of disease. Mechanical, chemical, dynamic, or physical forces, depend for their equilibrium upon the elements of nutrition, the manner of preparing them, the best articles of supply, and when, where and how to use them. To this there are to be added other considerations which are indispensable; such as climate, seasons, idiosyncrasies, sex, age, occupation, temperament, etc.

In thermal countries certain diet is admissible, whereas, in cooler and extreme northern latitudes the opposite, in the nature of the ailments, would be required.

Food is the anchor of life, and without it no hope, of physical development can be secured; therefore it is an absolute, unconditional necessity, and superlatively needed as a restorative principle. In disease, therefore, it is of the greatest importance to know what the physical economy has lost, and what it requires; and to seek for the articles which contain the necessary constituent to re-establish the lost physical equilibrium, or to hold it in its normal condition where no descending vital signs have taken place.

In describing the proximate constituents of the nutritive elements we must observe; 1. The functions of water; 2. Of albuminoid compounds; 3. Carboniferous substances; 4. Amylaceous (starch); 5. Glucose (gum and sugar); 6. Mineral salts; and 7. Nitrogenous elements.

The proteinaceous compound, fibrin, albumen and gelatin, is changed and animalized in the stomach, into fibro-peptones, albumino-peptones, gelatino-peptones; these compounds are thus metamorphosed by the process of digestion through a secretion of the follicles of the stomach, being the true animal dia-stase juice, which organizes the nitrogenous elements and separates them from the starchy cellulose elements, just as the dia-stase by the enteric juice separates the starchy materials from the albuminous fats, gluten and glucose (carboniferous) compounds.

QUANTITY OF ALIMENT THAT WILL YIELD 1220 GRAINS OF NITROGENOUS MATTER.			
Skim cheese,	lb. 1-4	nitr.	1220
Lean meat,	" 9 ounc.		"
White fish,	" 1.0	"	"
Fat meat,	" 1.3	"	"
Bread,	" 2.1	"	"
Rice,	" 2.8	"	"
New milk,	" 4.2	"	"
Potatoes,	" 8.3	"	"
Turnips,	"15.9	"	"

NUTRITIVE EQUIVALENTS IN A DRY STATE.—PER 1000.			
ANIMAL.		VEGETABLE.	
Cheese	.331	Rice	81
Beef	.880	Potatoes	84
Oysters	.305	Maize	.100
H. milk	.100	Rye	.106
Cow milk	.237	Wheat	.119
Yolk of egg	.305	Barley	.125
Eel	.434	Oats	.138
Mutton	.773	White Bread	.142
Lamb	.833	Black Bread	.166
Ham	.910	Peas	.239
Herring	.914	Lentils	.271
Pigeon	.756	Maricots	.283
Pork	.893	Beans	.320
Veal	.873		

These tables show that red herring and ham in a dry state yield nine times more nutritious material than the dry matter of human milk, yet these do not show that all such elements can be appropriated, assimilated and utilized as products for the greatest nutrition. Nitrogen is not all that is required by the human economy; other materials equally important, if not more so, are to be considered.

Here we will divide starch as vegetable carbonaceous from animal fat carbonaceous, the latter being much richer in carbon—2.s greater than sugar.

It appears that an adult requires 1.267 grains of carbon, which is to be obtained from amyloids, glucose and fat animal food and 181 grains of nitrogen, to be obtained from albuminoids and meats or animal food. (Animal and vegetable nitrogenized food).

AVERAGE PER CENT. OF NUTRITIVE ELEMENTS OF ANIMAL AND VEGETABLE FOOD.

——	WATER.	ALBUMEN.	STARCH.	SUGAR.	FAT.	SALTS.	CARB.	NITROGEN.
Bread	37	8.1	47.4	3.6	1.6	2.3	as starch, 55.0	8.1
Beef	72	19.3	....	....	3.6	5.1	animal fat, 9.0	19.3
Fat Beef	51	14.8	....	....	29.8	4.4	animal fat, 71.50	14.8
Mutton	72	18.3	....	....	4.9	4.8	animal fat, 12.25	18.3
Fat Mutton	53	12.4	....	....	31.1	3.5	animal fat, 77.75	12.4
Wheat Flour	15	10.8	66.3	3.6	1.6	2.3	as starch, 75.50	10.8
Barley Meal	15	6.3	69.6	4.9	2.4	2.0	as starch, 80.30	6.3
Oat Meal	15	12.6	58.4	5.4	5.6	3.0	as starch, 77.80	12.6
Rye Meal	15	8.0	69.5	3.7	2.0	1.8	as starch, 78.20	8.0
Indian Meal	14	11.1	64.7	0.4	8.1	1.7	as starch, 85.35	11.1
Rice	13	6.0	79.1	0.4	0.7	3.5	as starch, 81.25	6.3
Peas	15	23.0	55.4	2.0	2.1	2.5	as starch, 62.65	23.0
Arrowroot	18	....	82.0	....	....	....	as starch, 82.00	....
Potatoes	75	2.1	18.8	3.2	0.2	0.7	as starch, 22.50	2.1
Veal	63	16.5	....	....	15.8	4.7	animal fat, 39.50	16.5
Pork	39	9.8	....	....	48.9	2.3	animal fat, 122.25	9.8
Butter	15	....	....	....	83.0	2.0	animal fat, 207.50	....
Beer	91	0.1	....	87.0	....	0.2	as starch, 8.70	0.1
Yolk of Egg	52	16.0	....	....	30.7	1.3	animal fat, 76.75	16.0
White of Egg	78	24.4	....	....	....	1.6	....	24.4
Skim Milk	88	4.0	....	5.4	1.0	0.8	animal fat, 9.90	4.0

AVERAGE PER CENT. OF NUTRITIVE ELEMENTS OF ANIMAL AND VEGETABLE FOOD.—*Continued.*

	WATER.	ALBUMEN.	STARCH.	SUGAR.	FAT.	SALTS.	CARB.	NITROGEN.
Skim Cheese... ...	44	4.8	....	....	6.3	4.9	animal fat, 15.75	24.8
Tripe..............	68	13.2	....	....	16.4	2.4	animal fat, 41.00	13.2
Poultry............	74	21.0	....	....	3.8	1.2	animal fat, 9.50	21.0
Cream..............	66	2.7	....	2.8	26.7	1.8	animal fat, 69.55	2.7
Ox Liver...........	74	18.9	....	....	4.1	3.0	10.25	18.9
Dried Bacon........	15	8.8	....	....	73.3	2.9	183.25	8.8

It is clearly shown that the amyloids, sugar and gum amount to 70.05 per cent. and the fat 2.0, so that the carboniferous vegetable matter (as starch) is to the nitrogenous as 7 to 1; and it is calculated that from two pounds to two-and-a-half is the average amount of food required by an active adult. Idleness does not require but one and one half pound per day.

It is obvious that the quality of the food has a great deal to do with the amount of nutrition received. Two pounds of bread will give sufficient carbon and nitrogen for the maintenance of life, but by using it alone health would be impaired.

Cream is rich in butter, yielding 13 oz. to 15 oz. of commercial butter; it contains 34 per cent. of solid matter, 26.7 of which is butter; specific gravity 1.013.

Meats differ very much in nutritive value according to the proportion of fat or lean: it is a common belief that beef is the strongest kind of meat; but the lean of all meats have nearly the same nutritive effect, provided it agrees with the idiosyncrasis of the digestive organs. Some cannot eat one kind of meat, but eat another with perfect impunity. There is a difference between fat and lean meats; the former contain more solid (carbonaceous) in place of water, while the latter has only 28 or 29 per cent. of solid.

The table on vegetable and animal nutritive elements show exactly which are the richest articles of diet, and from it we can select with sufficient accuracy the quality of food most desirable for our purpose.

And when, from our diagnosis, we can decide what our patients are in need of, we can soon refer to our table for the selection of the elements of nutrition most suitable to their wants.

ALIMENTATION IN DISEASE.

In acute inflammatory diseases, the febrile state induces serious changes in the constituents of solids and liquids. The interstitial fat disappears from the tissues, which become soft and watery. The muscles become flabby and pale, and lose their contractive energy. Digestion is feeble or suspended, the red corpuscles diminish in number, and fibrinous plethora is soon engorging capillary circulation. The blood suffers material alterations; the red corpuscles diminish, the fibrin increase and a pathological tissue metamorphosis takes place. The phenomena of the organism is that of descending to disorganization, and thus pathological products crowd the intertices of the tissue, and therefore the result is waste and struggle for eliminations of the poisons and decayed tissue changes. It is the intention of our efforts by a thorough knowledge of therapeutics to prevent the occurrence of changes in the structure or parts of organs, and to favor the natural solution of the pathological process going on in the economy, and at the same time to repair the general lesions in the organism, which the occurrence of morbid action has induced.

In this effort alimentation of a suitable kind becomes of the highest importance. Now, then, the object is to supply the patient with those nutritive substances that he requires in his abnormal condition. What would be the proper alimentation in acute fevers or inflammations? We certainly cannot prescribe a carboniferous diet, neither a nitrogenous one entirely, for such nutriment would increase heat, circulation and carbonification. It is evident that we must use an amylaceous and glutinous diet. This compound we find in starch and albuminous nutrients. The articles that have these elements are rice, wheat, flour, barley, rye and meal. These ingredients can be combined with animal food containing the least carbonaceous and nitrogenous elements, and the greatest amount of gelatine, such as veal, lamb, chickens (poultry) and milk. In a broth made of lean veal, or chicken, and rice or barley, we have a compound suitable to conditions of inflammatory diseases. The weakest of vegetables—arrowroot—which has only starch, can be used also by combining it with rich milk.

The functions of amylaceous, cellulose, and succulent substances called hydrates of carbon, are mostly calorific, yet they have a nutritious effect in their starch, gum and sugar. However, the animal fat is twice as great as that of starch (2.5). But these substances have other duties to perform beside caloric, which is in fact the final result of their oxidation; for after starch becomes a glucose ingredient by physiological metamorphosis, it goes on further and takes the form of various acid compounds, as lactic acid, carbonic acid, butyric, lithic and uric acid, etc., which are found in the perspiration. Starch and sugar are also concerned in the production of fat. Farinaceous materials and sugar are very fattening articles of diet.

And again, in cases of emaciation, provided it is not the result of organic and structural disease of the stomach, we can often develop some new plan of nutrition, based upon our knowledge of the various articles of diet, and succeed, if any success is attainable, by using nutrients suitable to idiosyncrasis of the patient, thus increasing the adipose tissues. If the patient should digest well the animal fat, that would be more apt to increase the adipose tissue, being stronger than vegetable carbon.

And for this purpose we should select Indian meal, peas, wheat, flour, butter, milk, barley, rye, oat-meal and succulent vegetables like tomatoes, potatoes, fruits, etc., as articles of diet for those whose constitution is needing fat and histogenetics. But some albuminoids must be interwoven with the carboniferous in order to proceed with the process of thorough reconstruction.

Again, these articles of diet known as leguminous food, must be conjoint with the saline materials necessary to the economy, namely, phosphate of lime, sulphate of potass. and phosphate of magnesia; with these, silicate and carbonate of lithicum are often present.

From some other articles we get phosphoric acid, iron oxalates, etc., and oftentimes it would be well if we should select those nutritive elements containing certain amounts of alkaloids, or salts, for these are the necessary elements for the plasticity of the liquor sanguini.

" The saline constituents of food are largely concerned in the metamorphosis of matter; and, perhaps, this is the principal function, for it is a speciality for these substances to give a soluble form to the plastic constituents of food and of the animal tissues. They are, therefore, concerned in the phenomena of digestion, absorption, sanguinification, assimilation, disintegration, and secretion. In truth, they are the chief, if not the only, media for the transference of organic matter from place to place in the animal body, being, in one word, the purveyors of nutrient materials to the system, and also the carriers of effete substances out of it, besides which, it is very probable that they are the agents whereby liquid colloidal forms of nutriment are changed into solids or pectous (vegetable basis of jelly), as in the formation of solid tissues from the blood, and conversely, the solid into liquid."

In the case of digestion and absorption, the plastic elements of our food, as albumen, fibrin, gelatin, etc., are not of themselves capable of dialysis by passing through the walls of the alimentary canal, and, therefore, absorption must be assisted by some physical agent. This agent is the highly diffusive acids and salts which are secreted so freely into the stomach during digestion; and they prove to be indispensable substances in the solution of the proteine compounds by converting or organizing them into peptones, changing the molecular form of the constituents, and causing it to pass from a thick, viscid, unabsorbable colloid juice into a highly diffusive fluid, thus facilitating dialysis by passing easily through the walls of the alimentary canal.

The colloidal fluid, after passing through the process of animalization, goes into the blood and assumes a crystalloid form, and therein we find the crystals of the alkalinity of blood, thus the molecular metamorphosis takes place from the fluid colloid into alkaline crystals.

The phenomenon is rich in beauty, interest and usefulness, and it is not ended here; the blood returns to the tissues, and there finding acids, it once more changes its molecular structure, and the crystals are diffused again for the purpose of nutrition. This does not exclude the process of the law of endosmosis and exosmosis, for those are physical functions of molecular affinity; the effects of the salts are to organize and facilitate absorption and secretion, thus reconstructing solid tissue. In this way, step by step, the physical metamorphosis brings about a condition of pectous solid by the saline constituents, and according to their nature and proportion determine the degree of hardness. Again, another physical and organic transition takes place, namely, the removal of effete materials and worn-out tissue. This is unquestionably affected by the agency of saline substances, for during the process of oxidation, acid compounds are produced in the shape of lactic, acetic, chloric, carbonic, phosphoric acids, which,by acting chemically on the saline constituents of the animal fluids, give them a solutive power upon plastic matters, and thus enable them to remove the debris of worn-out tissue or superabundant secretions like bile, urea, carbonic acidities of the enteric juices, etc.

Of the special function of each of the many saline constituents of food so far, little has been demonstrated, yet it is a remarkable fact that the alkaline or basis, phosphate of soda is invariably found in the blood, while acid-phosphate of potass is the chief constituent of the tissues. The alkalinity of the blood is a physical necessity in order to keep it in a colloidal form, and at the same time adding to its plastic metamorphosis. What is the agency of this phosphate of soda? Two great phenomena and changes take place. It assists in the oxidation of organic matter, by absorbing and removing carbonaceous products, changing them in the shape of phosphoric, carbonic acids. If this ingredient is not present in sufficient quantity, other carbonates perform that duty, and thus the effete matters of decayed tissues are removed by the excretions.

PER CENTAGE COMPOSITION OF MINERAL MATTER OF BLOOD.

	PHOS. ACID.	ALKALINES.	ALKALINE EARTHS.	MINER. ACIDS AND OXIDE OF IRON.
Pig	36.50	49.50	3.80	9.90
Sheep	14.80	55.79	4.87	24.54
Dog	36.82	55.24	2.07	5.87
Ox	14.04	60.00	3.64	22.32
Man	31.79	55.66	3.33	9.22

The cow's milk gives, according to Hardless, the saline matters amounting to 5-8 in a thousand—the average 5.83, of which the individual constituents are as follows:

Lime, 2.88; phosphate of magnesia, 0.53; phosphate and peroxide of iron, 00.7; chloride of potassium, 1.63; chloride of sodium, 0.29, and free soda, 0.43.

The salts of potass, namely, carbonates, nitrates, sulphates and phosphates (called acid phosphates of potass) are the chief constituents of the fluid of tissues, and have the opposite function from the phosphates of soda, namely, that of promoting the transudation of nutrient matter, while the alkaline phosphate of soda prevents.

Alkaline earths: phosphates, lime, magnesia, carb. barita: sulphur, silicea, etc., are perhaps the agents for the consolidation of tissue, and pass into the condition of pectous solid and form the calcareous deposits of bone, teeth, tegumentary scales, egg-shell, nails, etc. The saline constituents are exuded, according to their nature and proportion, thus determining the degrees of hardness.

CHLORIDE OF SODIUM.

This is the common salt which the nutrients or the ingredients of diet do not supply or contain. It has an important part in the structural functions of the animal economy, and must be supplied (an alkaline earth). It is a large constituent of every one of the secretions, and forms about half the total weight of the saline properties of the blood.

Unlike the phosphates, it does not enter into the composition of tissue, but seems to be only a medium of absorption and secretion. And it is so necessary and exact in its proportions that it is not possible to alter, to any large extent, its proportion in the blood.

It cannot be diminished or increased to a large extent. This normal proportion of it in the blood is evidently a physiological necessity, which the condition of diffusion imperatively demands.

It favors the elimination of the effete animal juices and tissues through the agency of its free acid (chloric acid), existing in the gastric and muscular juices, which are thus absorbed and secreted.

Before we proceed to other constituents it is well to remark the importance of alkalines and alkaline earths in the human organism. We cannot forget that children often become anæmic although fat, weak although apparently healthy. And, perhaps, upon inquiry into the constituents of the nutriment of milk, we will find it different in carbonaceous and saline ingredients of some kind. Here lies before us a table which points out the saline substances of the blood, and the functions of those substances; from it we learn that a want of phosphate of soda and free soda would disarrange the molecular crystals, the colloidal viscidity, and disturb the exact proteinaceous compounds of albumen, fibrin and gelatin, so that the phosphate of soda is a constituent of great value in the colloidal formation of the blood.

We cannot pass by the usefulness of the other alkalines and earthy alkalines and the free mineral acids. These are phosphates, nitrates and carbonates of potass. These promote absorption and diffuse the nutritious elements into every tissue, and, at the same time, by their diffuse properties or effects, favor secretion and excretion of the effete tissue and juices. Now, we have indeed great use for these alkalines in all cases of inflammatory diseases where fibrinous accumulation and blood disintegration is threatened. And, also, in all those malarious phenomena of diseases where the blood is poorly oxidized and retains much of the effete venous carbonaceous constituents; the saline substances should be properly increased through diet, baths and remedial agents; these agents secure the solubility of the blood and prevent fibrinous plethora and corpuscular decay.

But there are difficulties in the way. Often an article of diet that is rich in alkalinity is also unfortunately rich in carbonaceous or nitrogenous substances, and these would add too much caloric to an inflammatory disease. In that case we may seek a diet amongst the vegetables, as wheat flour, oat-meal, barley and milk can be often used. But in malarious diseases where the proteinaceous compound has been seriously disturbed, and the process of absorption and secretion equally interfered with, the excretions being slow and full of disorganized animal matters, it is obvious that a free vent to these physical and physiological functions should be given by a judicious increase of saline substances, and at the same time, carbo-nitrogenous alimentation. These can be added in fluid drinks, in dietetics, and as medical agents. These chemico-physiological agencies would aid the medical treatment in the great recuperative process. And do not the new school give often natrum mur. in intermittent fevers? Carbo-veg., kali-carb., arsenicum album, nitr. acid and phosph. These are physiological remedies, and are aided by china, quinia sulphatis, capsicum alb., cetron, eupotorium per., aconite, belladonna, gelseminum, bryonia alb., etc. These are medicinal agents which contain substances of a toxic revulsive nature, producing a revulsion and re-establishing the equilibrium of the system.

But we must never forget to use agents, physiological or medical, which will act not only on the nervous centre, but also upon the absorbents and secretions, eliminating, or encouraging the elimination of the excrementitious materials which are encumbering and disturbing the restorative process of nature.

Amongst these agents we may select those more available to the idiosyncrasis of the disease. 1. Blood remedies: phosphate of soda, ferrum peroxidum, peroxide of manganese and chlorate of potass. 2. Tissue remedies: nitrate of potass, sulphate and phosphate of potass, together with the earthy alkaline phosphates, namely, lime and magnesia, chloride-soda, carbonate of lime and barita, sulphur, silicea, etc. After these become oxidized and produce their effects upon the organism, they pass off as carbonic phosphoric, nitric, sulphuric, uric, lactic acids; they are the oxidized remnants passing off with the decayed tissues as carbonic, and uric, and lithic acids. 3. The therapeutic agents which we use take another line of action, namely, affecting the nervous centripital and centrifugal system; and with these agents we modify organic action, increase physical functions, divulge nervous and vital activity—thus increasing absorption and secretion, and also the whole process of assimilation, histogenesis, chemical action, ejestion, circulation, oxidation, etc. These mineral acids are often substituted in the shape of already oxidized substances, as acetate of potass, nitric acid, phosphoric acid, sulphuric (carbonic acid in the mineral water), etc. Also tinct. mur. of iron, chloride of gold, argentum nitricum, oxide of iron, acetate of lead, ebr. oxide of manganese (minerals).

The subject must be retraced to the products of alimentations; and just here we will take the vegetables.

GRAINS PER POUND OF CARBONIZED NITROGEN.

GRAINS PER POUND OF	CARBON.	NITROGEN.
Split Peas	2.698	2.68
Indian Meal	3.016	1.20
Barley Meal	2.563	0.68
Rye Meal	2.693	0.86
Second Flour	2.700	1.16
Oat Meal	2.831	1.36
Bakers' Bread	1.975	0.88
Rice	2.732	0.68
Potatoes	0.769	0.22
Turnips	0.263	0.13
Carrots	0.508	0.14

The carbon of vegetables is confined in the starch and sugar, and is the equivalent to fat in the animal food.

From this list we can surely select our vegetable diet in sickness—whether we want nitrogenous food or starchy and calorificient. And we perceive that peas have the greatest amount of nitrogenous substances, even beyond the reputed oat-meal. Again, we can also select those ingredients that contain more or less of the alkalines and mineral alkaloids, as elements necessary to the animal economy. The proximate elements of 100 parts of peas, beans and lentils (per 100 parts).

MATERIALS.	WATER.	FAT.	NITROG.	SALT.	STARCH.	SUGAR.
Peas	15	2.1	2.3	2.3	55.4	0.2
Beans	13	2.6	0.9	2.3	74.0	....
Lentils	....	....	2.5	....	....	....
Maize	14	8.1	11.0	1.7	64.7	0.4
Rice	13	0.7	6.3	0.5	79.1	0.4
Oat Meal	15	5.6	12.6	3.0	58.4	5.4
Wheat Flour	15	1.6	10.8	2.3	66.3	3.6
Rye Meal	15	2.0	8.0	1.8	69.5	3.7

ON CERTAIN BEVERAGES.

All nations have some national favorite beverage. The southern nations indulge generally in light acidulated drinks; the northerners use a more carbonaceous beverage in the shape of liquors. But there are several vegetable infusions which are accepted by the whole civilized world as eminently healthful and nutritious, namely, tea, coffee, cocoa, chocolate; beer and wines, which come within the class of fermented articles.

"The principal constituents of tea and coffee are 1. A volatile oil on which their aroma depends. 2. An astringent acid, of the nature of tannic acid in tea, and caffeine acid in coffee, which give them their bitter styptic taste—an average of 13 to 18 per cent. in tea, and about 5 per cent. in coffee; and 3. A crystalized nitrogenous substance of an alkaline nature called theine in tea, caffeine in coffee, and theobromine in cocoa (theobroma a crystalized principle of both coffee and cocoa).

"The physiological properties of these and of their homologue, theobromine, are a nitrogenous crystalized substance." The physiologists like Mulder, Liebig and Lehmann, with infusion of roasted coffee and caffeine, went to show that their chief influence on the human body was to retard the waste of the tissue; that when, for example, an infusion of roasted coffee (for three quarters of an hour), was taken daily for a fortnight, the amount of urea and phosphoric acid excreted by the kidneys was *less* by *one-third* than when the same food was taken without coffee. "Reasoning from these experiments, it leads us to say that theine, caffeine and theobromine are closely related in their composition to nervous tissue, and that, therefore, they are suited for the *repair* of *nervous tissues* and the renovating of exhausted brain.

"The vapor exhaled from the oil by the process of distillation (empyreumatic oil) and abstraction, was found to produce a stimulating action on the nervous system. It also operated upon the skin and bowels, producing gentle perspiration, peristaltic action, and it removed the sensation (nervous influence) of hunger.

"And, in conclusion, it has been ascertained that these beverages lessen waste, and enable the food to go further in its nutritive action."

Doctor Edward Smith's experiments and opinion differ somewhat from the above, and coincide with my opinion and experience.

"1. Tea promotes rather than checks the chemico-vital function of the body, for directly after it is taken, the quantity of carbonic acid emitted from the lungs, and the quantity of air inspired are increased, and there is greater depth and freedom of respiration." In this way, he thinks, it promotes the transformation of amylaceous and fatty food into carbonic acid, and by exciting free perspiration it acts as a cooling agent, lessening the heat of the body. Coffee, he says, "has an opposite effect, for it lessens the waste of the tissues and the action of the skin (increasing the heat of the body) and promotes through its specific influence upon the cerebro-spinal system, the peristaltic movement of the intestines."

"And here we must admit that coffee yields an element called taurine (from taurus ox or the bile of ox), which is a nitrogenized constituent of the bile, and Liebig properly asks if coffee may not be concerned in the production of bile." And theine, he also states, is related to kreatine—that remarkable compound found in the muscular juice of animals, consisting of oxygen, hydrogen, carbon and nitrogen. (It has neither acid nor basic properties; by the action of strong acid it is crystalized into *kreatinine.*) We can now pretty well define the differences of their constituents, and hence establish a point of their individual and peculiar action upon the animal economy. In a generic sense, I agree with the general acceptation of these products as vital stimulants or invigorators, but they certainly differ in a special sense in their action upon the human system; their homological constituents are of the same essential nature; their effects are as well homological, or similar, but yet act on different parts and functions of the organism.

The subject is clear for our understanding of the proper use of these articles of diet. Coffee, then, should be used in all cases of emaciation and low type of diseases.

In inervation; in neuralgias; in fevers like typhoid; after surgical operations where blood has been lost and anæmia is threatened; malarial diseases; in atonic dyspepsia; in chronic eruptive diseases; in scrofula and chronic constipations from atony of the peristaltic movement of the intestines. In want of vital force; in mental debility and want of organic co-ordination, assimilation and vitalization. In diseases of women after parturition; in marasmus; phthisis and catarrhal diseases.

Cocoa is also a beneficial nutrient, containing more nutrition in carbon and nitrogen than coffee; the oleogenous and nutritious elements are far greater than those of coffee; but it has little effect in lessening the metamorphosis of tissue, and less still upon the cerebro-spinal or vaso-motor system.

Tea, then, can be used when we desire to promote carbonification, augmenting respiration (respiratory), cooling the body and disengaging carboniferous and nitrogenized constituents, which are as a surplus and effete matter in the economy. The coffee will add force and nutrition like phosphate of soda; while tea will diffuse the nutritive elements through the tissue, and encourage secretion and excretion like the alkaline salts of the nitrate, phosphates and carbonates of potass. And this is a good lesson to prevent the indiscriminate use of these articles, so eminently and highly nutritious, by those from whose study of dietery, better things should be expected.

Fermented Liquors.—The process of fermentation is too well-known to require an elaborate description.

The simplest form is that of making bread and wine. Starch and sugar are the two requisite substances in the grape, and by the process of fermentation a molecular disintegration takes place, and with the addition of atmospherical oxygen and hydrogen, under a thermal temperature, wine is the result (10 to 17 parts of alcohol).

But we go a step further if a spirituous liquid is desired, by burning out totally the vegetable starch and sugar, and thus getting a pure carbonaceous fluid (alcohol) as the result ($C. O._2$). Should we add one more atom of oxygen to $C. O._2$, namely, $C. O._2$ and $H. O._2$, we would have an acid (acetic) a product of an excess of oxygen.

Wine and bread are two great elements of physico-vital force, and they stand at the head of the list of nutritious materials. But the alcohol and spirituous liquor are eminently carboniferous, highly stimulant and not nutritious in the least. It is simply fuel to the animal economy by which (if needed) much benefit can be produced; this dangerous material is diffusive in helping the general process of assimilation, organization and nutrition. It promotes stimulation and motion; activity of the organs is increased; circulation is strengthened, and every organ and capillary is aroused to activity. The brain gives evidence of a new vigor through the increased cephalic circulation; the heart becomes fuller and more active, and the whole economy is thrown in a state of temporary agitation.

And an element that can produce, almost instantaneously, such results, is surely an element of danger; and when abused, it proves so to the fullest extent. Its reaction is conversely to what has been stated. The carboniferous spirit burns as it were the tissues, changes the juices, disorganizes organic functions, interferes with assimilation, prevents nutrition and a condition of anæmia, and inanition is the result. But are these reasons sufficient for the inquiring physician to stop and say, I will learn no more of this fatal drug. The man who gives the arsenic, the opium, the chloroform, the aconite, the atrophine, etc., cannot remain in such a ridiculous state of uncertainty, he must move and find the way to use this agent safely.

Spirituous Fluids.—There is the same universal indication of their serving a profound physiological purpose, and supplying a common want. It is no argument that because these things have been abused they serve no purpose in man's economy but that of evil.

On the contrary, the fact of their use in all times, and that no saccharine liquid or juice of ripe fruit can be exposed to the air without spontaneous and almost immediate fermentation, are striking evidences of design for some useful purpose.

They may not enter into the composition of tissue, but they may stimulate the energies of the living frame and rouse them into increased activity. There are not only brick and mortar to be sustained in the human economy—there are rarer forms of matter, and higher manifestations of force, concerned in man's existence.

The effect of alcohol is much diminished by the substances with which it is associated in different spirituous liquors. Beer and ale, wine, cider and sherry, have an effect upon the respiratory function by reason of the saccharine and nitrogenous matter which they contain (calorificient constituents).

Brandy and gin lessen the respiratory action. Rum (Jamaica), beer and ale are true restoratives, as they sustain and increase the vital powers. This is due to their combination with saccharine and nitrogenous materials which the pure spirits do not possess—except in carbonaceous combustible form.

FUNCTIONS OF CONDIMENT, PEPPER, MUSTARD AND SPICES.

These substances are not simply the adding of an aroma to the food, which makes it more palatable and agreeable to us; but they have a pungent, stimulating action upon the salivary glands and gastric juice; they excite a greater amount of digestive fluids, increase nervous activity and capillary action. They make digestion more easy, and assimilation possibly more complete. Herbs—like sage, rosemary, parsley and celery, are very useful in animal broths and soups generally.

Indeed, the art of culinary science lies in the knowledge of how to make food digestable, palatable, and agreeable to the eyes as well as to the olfactory.

The senses must be satisfied, for much of appetite and pleasure is thus cultivated and rendered serviceable to nutrition.

SUCCULENT VEGETABLES.

We have examined many of the articles of diet, their value, uses, effects, and individual constituents, but there are a few more of the succulent type that have not as yet been entered in the list of diatetics. They are juicy and cellular, such as potatoes, carrots, beets, cabbage, salad, cucumbers, mushrooms, tomatoes, pumpkins, egg-plants, and turnips. The class of succulent vegetables is a very large one, and is valuable for both its nutritive and saline constituents, by which it is at once a food and a medicine. These articles are so well known that they do not require description.

ARTICLES OF DIET COMPARED AS TO THEIR NUTRITIVE QUALITIES IN OTHER PROXIMATE ELEMENTS.

	WATER.	ALBUMEN.	FAT.	SALT.	STARCH.
Lean Beef............	72.0	19.3	3.6	5.1	0.9
Fat Beef.............	51.0	14.8	29.8	4.4	74.50
Lean Mutton..........	72.0	18.3	4.9	4.8	12.44
Fat Mutton...........	53.0	12.4	31.1	3.5	77.75
Pork.................	39.0	9.8	28.9	2.3	122.25
Dried Bacon..........	15.0	8.8	73.3	2.9	....
Green Bacon..........	24.0	7.1	66.8	2.1	....
Poultry..............	74.0	21.0	3.8	1.2	9.50
Ox Liver.............	74.0	18.9	4.1	3.0	10.25
Veal.................	63.0	16.5	15.8	4.7	39.50
Yolk of Egg..........	52.0	16.0	30.7	1.6	76.75
White of Egg.........	78.0	24.4	....	1.3	24.44
White Fish...........	78.0	18.1	2.9	1.4	....

The so-called starchy animal nutrients are the carboniferous and fatty substances, as the starch of vegetables corresponds with the animal *fats* (carboniferous).

We have classified many articles of diet according to their proximate constituents, and not with reference to their ultimate or chemical principles, for there is a great difference between nitrogenous and nitrogen-carbonaceous, and carbon; as these classified elements are to supply the economy in health and disease, therefore we have to select those that contain elements that we think the patient needs, according to sex, age, idiosyncrasis and morbid affections. And to understand this important matter of alimentation, it is also advisable to understand the natural constituents of the blood. We have studied the amount of carbonaceous and nitrogenous material which is required to sustain the equilibrium of the animal economy—from 2 ℔s. to 2½ ℔s. of solid food per diem. When at work in the field it even requires from 3 to 3½ ℔s., the quality of food—one of nitrogen to six of carbon. In idleness it requires 2.27 ozs. of nitrogenous food and 19.61 ozs. of carbonaceous food. In ordinary labor, 4.56 ozs. nitrogenous, and 29.24 ozs. carbonaceous. In active labor, 5.81 ozs. nitrogenous food, 34.97 ozs. carbonaceous.

This method of study takes us to the amount of waste going on in the body at rest and at work. The estimate of the carbon and nitrogen exhaled and secreted is from 6 to 13½ ounces daily.

Average Excretion of carbonic acid by the lungs:

7.85 ozs. daily when the body is at rest.
9.11 " " with moderate exercise.
12.9 " " with considerable labor.

Taking the average as represented by 2 ℔s, 2 ozs., i. e., 34 ounces of food in ordinary diet, there would remain in the system for general repair of the wastes, 26.15 ozs.

And taking the largest amount of 3½ ℔s. or 56 ozs. of food, compared with 13 ozs. of loss: there would be 43 ozs. left to repair the waste.

Now then, there is the amount of nitrogen excreted, as urea amounting to 2.03 grs. to one pound weight of the body (in ordinary diet and *no exercise*, 3.04 grs). Add to this 9.6 ozs. emitted daily by the skin and bowels, or 28 grains per pound weight. And with a non-nitrogenous diet and no exercise, it was 0.95 grs. per pound weight or less than half, with the same diet and active exercise, 2.42 per pound weight or 364 grs. per 156 ℔s.

As we have the articles of diet whose proximate constituents contain all we need for the process of nutrition, and as a great number offer themselves for our selection, it behooves us to know how much of that food is required daily, to sustain life and equilibrium during the different phases of various occupations or idleness. And this we have learned and more, namely, the amount on an average of the excretions of carbonic acid through the lungs, as urea or nitrogen through the kidneys, and excrementitious materials through the skin and bowels, we have taken as the standard or the rule of the physiological process going on daily in the human economy.

And with this before us could we fail, or go far from the physical necessities, taking of course into consideration, climates, occupation, idiosyncrasis, age and sex, in observing these rules? And once more: If in idleness we require only 1¼ ℔s. of food to 1½ ℔s., how much would a person sick in bed require? or confined to the house? I should consider 3 ozs. to 3½ ozs. per meal sufficient for an adult; and this food should be one N. to six C. in health; but in disease, this rule cannot be observed. The physician here must be guided by the nature of the malady and the needs of the physical economy, because we often require more than one part of nitrogenous to six of carbonaceous articles.

At other times we need more of the carbonaceous elements, i. e.: minerals and metalloids or alkalies, etc., magnesia, sulphur, phosphor, silica perox. manganese, iron, natrum, potassium, calcareous materials, phosph. and carbonate of lime. These minerals exist in large proportions in the products of food, called constituents.

Unquestionably the knowledge of the proper constituents of vegetable and animal food is of the greatest importance, in order to supply patients with those proximate physical principles so necessary to re-establish the physiological functions.

PERCENTAGE COMPOSITION OF THE MINERAL MATTERS OF THE BLOOD.

Blood is a healthful article of nutrition, and when fresh and fried with a few condiments to make it palatable, it is as good as liver or kidneys. The blood pudding of the Germans is good provided it be used at once. Ox blood is rich in alkalines and iron. Sheep's blood is equally rich. The blood of chickens and turkeys is richer in phosphorus.

This article comes in order within the list of diatetics, for in sickness when digestion is almost nil, this ingredient well prepared becomes as sweet as bread, brain or ox liver.

It has the advantage of being almost needless of digestion: and its nutritive constituents approach nearer than any other articles to the purest blood-making food.

COMPARATIVE LIST OF SALTS.

	MAN.	PIG.	FOWL.	SHEEP.	OX.
Phosphate Acid......	31.79	36.50	47.26	14.80	14.04
Alkalies	57.66	49.80	48.41	55.79	60.00
Alkaline Earths......	3.33	3.80	2.22	4.87	3.64
Mineral Acids........	9.22	9.90	2.11	24.54	22.32
Oxide of Iron.........	100.00	100.00	100.00	100.00	100.00

We can see at a glance that the blood of the ox and sheep is the richest in iron and alkalies, while that of fowls and pigs abound in phosphorus and alkalies. This gives the advantage of choosing for cases of anæmia where the blood has lost its red corpuscle and its phosphate of soda or iron. These constituents are the approximate mineral salts contained in the human blood.

I have seen these various bloods used by the peasantry of Italy, and have myself tasted them, and found them very digestable and palatable.

If we admit that mineral waters are physiological liquids, as containing many elements which the physiological process requires, why not select for the same reason those articles of diet endowed with the same elements?

In infancy, and from ten to sixteen years old we require more food and more articles of high nutrition than in adult life and middle age.

On an average infants require three times as much carbonaceous food and six times as much nitrogen as adults. Therefore, even in time of sickness we must give children a more nutritious diet than older people for young children require a supply for both nutrition and growth, while an adult has only to keep up the equilibrium.

COMPARATIVE DIGESTIBILITY OF ANIMAL.

ARTICLES OF DIET.	HOW COOKED.	CHYMIFICATION.
		H. M.
Beef	Boiled	2 45
Beef	Roasted	3 00
Mutton	Boiled	3 00
Mutton	Roasted	3 15
Chicken	Fricasseed	2 45
Lamb	Broiled	2 30
Fowls	Boiled	4 00
Fowls	Roasted	4 00

COMPARATIVE DIGESTIBILITY OF ANIMAL.—*Continued.*

ARTICLES OF DIET.	HOW COOKED.	CHYMIFICATION.	
		H.	M.
Ducks	Roasted	4	00
Pork	Roasted	5	15
Tendon	Boiled	5	30
Goose	Roasted	2	30
Turkey	Boiled	2	15
Cheese		3	30
Eggs	Hard Boiled	3	30
Eggs	Fried	3	30
Pig's Feet	Boiled	1	00
Tripe	Boiled	1	00
Eggs (Whipped)	Raw	1	30
Brain	Fried	1	35
Ox Liver	Broiled	2	00
Oysters	Stewed	3	30

COMPARATIVE DIGESTIBILITY OF VEGETABLES.

ARTICLES OF DIET.	HOW COOKED.	CHYMIFICATION.	
		H.	M.
Potatoes	Roasted	2	30
Potatoes	Baked	2	33
Indian Corn Bread	Baked	3	15
Cabbage	Boiled	4	00
Potatoes	Boiled	3	30
Cabbage, with Vinegar	Raw	2	30
Beans	Boiled	2	30
Barley	Boiled	2	00
Sago	Boiled	1	45
Tapioca	Boiled	2	00
Beets	Boiled	3	45
Carrots	Boiled	3	15
Rice	Boiled	1	00
Apples	Boiled	1	30

We see gelatinous articles of food are the most digestable, although not the most nutritious.

This list shows that vegetables take nearly the same time for digestion that animal food does. Apples, rice, sago, tapioca, and barley are the most digestible of all. Boiled cabbage, indian corn bread, boiled potatoes and boiled beets are among the most difficult of digestion. We cannot always combine the most nutritious and the most digestible, but we may approximate the two by comparison. But of course, if digestion is impaired and the system needs building up, the question will be an intricate one, and surely one that requires good judgment and discretion.

If we use highly nutritious food, which cannot well be digested, assimilation is impossible and nutrition necessarily abnormal. Between the two evils we may better aim at securing good digestion, even if the food lacks some of those constituents required by the system. The medical treatment then must supply the lacking constituents by medical agents, containing approximately constituents of nutrition, i. e., natrum chlori. potass, phosphates, acids, ferrum, silica and oxide of magnesia; by liquid food containing nitrogenous elements, namely, coffee, tea, ale and beer; carbonaceous wines, Jamaica-rum, milk and cocoa; and among such a large list we can select such as will further our aims in any given case or difficulty. But if nutrition is required as a *sine qua non* with only the usual digestive debility common and natural in sickness, we can select the most nutritious among some of the most digestible articles, either carbonaceous, nitrogenous or phosphorated.

A pound of cocoa made with an ounce of ground nibs contains the following proportions of nutritious matter:

NUTRITIOUS MATTER.	GRAINS.
Nitrogenous	96;2
Fatty Matter—Carbon	218.8
Starchy Extractive	65.6
Mineral Matter	17.5
Total Extracted	398.1

Now, it is very easy to solve whether a patient should have tea, coffee or cocoa, wines, beer, liquors, or succulent fruits which are various and nutritious, as orangeade, expressed juice from prunes, peaches, raspberry, cherries and sweet quassia or tamarinds, senna, etc. These of course add only saccharine matters, but yet they add carbonaceous and some starchy materials. (Glucose.)

A reference to Liebig food for children is here necessary, because it was thought to be the acme of perfection, and, perhaps, with some reason.

The so-called " Farinaceous Food for Infants " is only baked flour, sometimes sweetened with sugar.

The flour must be baked until it acquires a light brown color, the temperature being about 400 to 450 deg. of F. The granules of starch are thus disintegrated, and converted into a soluble substance, named dextrine (diastase) which by further process of cooking or boiling, as in making pap, forms, when properly sweetened, a very excellent food for children. The value of this process consists in breaking up the indigestible farinaceous matter (or starchy) by baking, and thus develop dextrine.

Surely we cannot pass by this subject and accept it as law, merely because the great Liebig gave it to us, as unfortunately is generally the case with the profession.

In remembering ulterior matters in regard to proteinaceous compounds, we distinctly see that our chain of reasoning is not lost or merely based on theories.

The explanation of Liebig's theory is this: " Dextrine is the diastase of starchy food or amyloids generally;" and what does he mean by diastase? "A vegetable principle generally allied to gluten," and therefore a viscid proximate constituent of wheat flour, which in reality is nothing but albumen. This is the germinating element which converts starch into gum, sugar, and therefore is a separating substance or disintegrating, which we see so plainly in making starch. It converts the adhesive elements into separate agents, which therefore act for themselves as nutritious agencies; whilst when enclosed into cellulose chambers they must either separate during the process of digestion by *fermenting*, or else pass off unbroken and undigested. This, in my opinion, is the first principle of the theory of Liebig—none other could be accepted.

The food which Liebig recommended for infants is a mixture of malt with wheaten flour and milk, to which a bicarbonate of potass has been added. The preparation is made as follows: One ounce of wheaten flour with ten ounces of milk, boil it for three or four minutes, and then remove it from the fire and cool it down to 90 deg. One ounce of malt powder, previously mixed with fifteen grains of bicarbonate of potash, and two ounces of water are then stirred into it. The vessel being covered, is allowed to stand for an hour and a half at a temperature of about 100 deg. of F. It is then put once more upon the fire, and gently boiled for a few minutes. Lastly, it is carefully strained, to remove any particles of husk, and is then fit for the child's food. The composition of the food according to Liebig is as follows:

	PLASTIC M.	CARBONACEOUS.
10 oz. Milk	0.40 oz.	1.00 oz.
1 oz. Wheat Flour	0.14 oz.	0.74 oz.
1 oz. Malt or Barley	0.07 oz.	0.58 oz.
	0.61 oz.	1.32 oz.

The relation of the plastic to the carbonaceous being as 1 to 3-8. The effect of the malt is to transform the starch into sugar or glucose. This object being to promote diastase, or separate the elements of the amylaceous articles (a ferment).

Liebig's extract of malt is another such preparation for the quick assimilation of starchy matters. And it is a well-known fact that vegetable substances are often fermented, either for the purpose of increasing its glutinous matter, making it viscid and albuminous (called plastic elements), or else to render it more acid, as we do in making wines or malt beverages.

And thus the diastase or dextrine develops all the gluten starch and sugar of the vegetable elements of nutrition, and if we go on a step further, we obtain, after fermentation, a solid or a liquid substance containing proportionately more gluten (plastic matter) than the original substance, because of the transformation of sugar and starch into alcohol; so that we return to our law of descent from $\mathrm{C.\ O.}_2\ \mathrm{H.\ O.}_2$ adding $\mathrm{C.\ O.}_2$ alcohol.

Finally, it is conclusive that the diastase is a glutinous substance, and that it is through this gluten or albuminous constituent in the starch, that we have the fermenting principle, hence the separation of these elements from the amyloids by separating their constituents into starch-sugar, gum, dexterine, and forming an albuminoid substance. The albuminous or protoplasma (called by Liebig, plastic matter) is thus decomposed and developed from its enclosure in the granules of starchy vegetable food. Then the process of fermentation is really the process of decomposition and disintegration of the constituents held together in the cellulose of vegetables.

And from this fermentation the elements are called into activity and a force (the nascent force) is thus established (into plastic force). This, then, is the physiological principle for fermenting or fomenting vegetable matter; it is obviously to call forward its plastic force.

LEGUMINOSE FOOD.

(*Prepared by Hermann Hartensteine.*)

This is a compound of several nitrogenous vegetables, namely: lentils, rye, barley, and wheat flour, and is considered by good authorities as a great discovery in dietary, supplying elements of nutrition easily digested and assimilated. "The abundance of nutritious materials in these flours has been placed beyond a doubt by the strictest chemical investigations. The nitrogen contained in them was determined by Professor Kolb, in Leipzig, and Professor Heck, in Dresden. The quantity of fat and fatty substances (cholesterin, a constituent of the brain and nerve) besides the biliary matter, was determined by myself—Professor Beneke. The analysis prove that the finest lentil-flour contains 24.83 per cent. of nitrogenous substances, and that fat and fatty compounds amount to nearly 3 per cent. Starch is contained in the proportion of about 52 per cent., the quantity of cellular matter is 8 to 10 per cent., that of ashes, 1-3 to 1-5 per cent., with 0.012 to 0.15 per cent. with phosphoric acid."

PROXIMATE CONSTITUENTS OF LENTILS.

NITROGEN.	FATTY MAT.	STARCH.	ALKALINE EARTHS.	MIN. ACID.
24.83	3.00	52	1-03 to 1 5	0-012 to 1 15

Accordingly pure leguminous flour approximates very closely to beef in its nutritive value, and with a small addition of Liebig's meat extract, which increases the phosphates, it is almost equivalent to it. By mixing the same with cereal-flour, i. e., rye, wheat, and barley, the various proportions of nitrogenous and non-nitrogenous substances are produced.

The proportions are graduated according to its strength of nitrogenous, or starchy materials; mixture No. 1, from 2 to 3 parts of cereals being the strongest. Mixture No. 2—33, rank as nutrient beef and cow-milk; mixture No. 3—1 to 3, 9, is equal to cow-milk in its nutritive value. No. 4 has a proportion 1:4, 8, being the normal strength of food generally. One to six is the minimum and necessary strength of our food in health.

Investigations have shown that these flours contain only 10 to 12-7 per cent. of chygroscopic water, whereas beef contains about 75 per cent., and cow milk 80 per cent. Therefore, one pound of these substances contain 3½ times as much solid substance as meat, and more than 7 times as much as milk.

It is slowly mixed with cold water and put on the fire to boil for half an hour, with sufficient salt to make it savory; they furnish a soup which is invaluable for the sick and convalescents. Dose—a large tablespoonful to be put in a plate of animal broth.

Now, we can perceive the necessity of adding alkalies to food, for the nutriment might not have them in sufficient quantities for the re-establishing of a system whose equilibrium and mineral salt have been lost.

It is one thing to provide a diet for a person in health, another to furnish a diet which shall rectify the missing nutrients in the body in time of sickness.

These two preparations of assimilating constituents to the animal economy are to a great extent similar; for both seek the same end. However similar, they nevertheless differ materially in constituents proximate and ultimate. The difference exists in the amount of nitrogenous articles of diet. In Liebig's preparation he uses malt or barley, a starchy ingredient par excellence; and to bring about diastase he adds heat and milk, two great elements of fermentation, thus developing the gluten or nitrogenous element. Then wheat flour, malt, heat and milk are the ingredients of Liebig's food. Hartensteine's Leguminose is a mixture of lentils, wheaten flour, barley and rye, which certainly contain more nitrogenous matter than Liebig's; and Liebig's therefore is inferior in plastic material. He adds bicarbonate of potash as a mineral or alkali in order to suppy the food with sufficient saline material. Hartensteine takes his supply of salts from the animal food he uses, as well as vegetable. They also contain much more saline material and mineral acids. But yet, if the broth should be too rich as a nitrogenous liquid, milk would do as well, provided that we adopt Liebig's plan, i. e. to add an alkali, and the best we will find in the phosphates of soda, potash, magnesia or lime. These preparations are not confined to children alone—invalids of all ages and diseases require a nutriment suited to their complaints; and we can prepare many articles of diet which would aid in a great measure in supplying the wastes.

CULINARY PRINCIPLES.

It is hardly necessary to say that man's mental culture has given him the knowledge of providing that kind of food which meets best his constitution, and supplies the wastes which are continually going on in the system, and he who has not attained this knowledge is not above the lower animals.

The great desideratum, then, is to select the food suitable to constitution, age, sex, occupation, climate and seasons.

A temporary fatness may be produced, especially in the young, by the use of farinaceous food, but it does not last, and is sure to bring on disease or sickness.

Man is omnivorous and must be fed accordingly. Any deviation from this rule is wrong. Extreme leanness comes from want of proper alimentation either in youth or old age.

It is not the amount that is eaten which nourishes, but the amount that is digested.

An excess of food is as bad as a want of it. The rules are the following: 1. Take a hearty meal, but by no means a heavy dinner. 2. Vary your food as much as possible. 3. See that everything that you eat or drink is of a good quality, wholesome and properly prepared. 4. Take at least an hour after a hearty meal, for mind and stomach cannot work at the same time. 5. Never eat when angry, or tired, or when heated, but be as cool and gay as possible, for food being exposed to a heat of 100 degrees F. in the stomach, would ferment instead of digesting. 6. Eat slowly, at regular hours, and masticate well, but do not bolt your food. 7. Always have at least one dish of vegetables for dinner, besides meat, and some ripe fruit. 8. Be guarded against too hot food, for it would neutralize the gastric juice; also, do not use ice-water or ice-cream after your food, for it would stop digestion and absorption.

Modes of Cooking and Preparing Meats.—It is, no doubt, the great object of culinary science to retain all the nutritious elements in the articles of diet; more, it teaches the manner of developing the nutriment in them, and of rendering them accessible to digestion and absorption. Much can be lost by improper cooking; indeed a poor cook is a source of great anxiety, for nothing tastes good or is nutritious.

1. To coagulate the albumen and blood of the tissues, so as to render the meat agreeable to the eyes as well as the taste.

2. To develop flavors, and nutritious materials, and to make the tissue crisp, as well as tender, and therefore more easy of mastication and digestion.

3. To secure a certain temperature, and thus to be a means of conveying warmth to the system; and render assimilation perfect.

4. To destroy parasites in the tissues of the meat; and develop its minerals and albuminoids.

5. Never cook your meat too much, as it becomes indigestible in proportion to its toughness; the tissues become hard and shriveled, the blood dries and disorganizes, its fats oxidize and become acrid; and this is always the case in fried meats. I have seen meats and

sausages cooked under hot ashes, and I can scarcely speak too strongly in favor of this method. They retain all the savory fluids as well as the nutritious ones. They keep the saline materials in the meat, and the fats are not burnt or oxidized, and thus they are prepared sweet and digestible; the ashes add an alkali as a protection from becoming hard, shriveled or oxidized. No one who has not tested this method can have any idea of the advantages it secures in cooking meats.

And this is substantiated by the common practice of cooking chickens and game with a covering of lard or or oiled paper, and even with feathers, the idea being to modify the intense heat which would destroy the constituents of the meats.

Liebig says, " that a temperature of 133 F. will coagulate albumen, and that the red coloring matters of the blood and muscle are coagulated and destroyed at from 156 to 170." His directions are that all cooking operations, in respect of meat, should be limited to 170°, and that boiling meat should be introduced into the vessel when the water is in a state of strict ebullition, and that the boiling should be kept up for a few minutes. The pot is then to be placed in a warm situation, so that the temperature of the water is maintained at from 158° to 165°. The effect of this is to keep the albumen in the meat, and the crust which forms on the outside does not permit the juices to escape, nor the water to penetrate into the meat.

The meat thus retains its savory and nutritious constituents. But if the meat is set on the fire with cold water, and then slowly heated to boiling, the flesh undergoes a loss of albumen and gelatine, (the solid and savory juices) and the soup becomes richer ; the truth is that we cannot have both a rich meat and a rich soup from the one piece of flesh or by the same process of cooking.

Experience has taught us the proper methods of cooking the various kinds of meat. A good cook will boil beef, poultry, veal, mutton, and certain varieties of fish; but not game or a shoulder of mutton, venison, etc., for meats differ obviously in their solidity and savory juices. Those that are not highly flavored with nitrogenous and saline ingredient cannot well bear boiling.

Fresh-water fish are best cooked by broiling. Salt water fish has sufficient flavor to stand boiling; and really very rich fish, like eels, salmon, mackerel, sturgeon, tunny-fish, and many others, can be boiled to advantage.

Frying and baking are not the best ways of cooking fish; these methods make the fish dry and indigestible.

Stewing is a good system of cookery, because it is a process that retains the nutriment of the meat and renders it juicy and tender. The meat loses little of its weight and is often mixed with vegetables, which enrich the food with their starchy constituents; it is an economical mode of cookery, and requires little trouble and experience.

Time required for Cooking Meat.—Most people are uncertain as to the time it takes to cook meats. You have often to consult the taste, for some cannot eat rare meat.

The general rule is that beef, lamb, mutton and game may be eaten rather underdone—according to taste; domestic poultry must be well cooked; pork and veal must always be well done, and as dry as possible, otherwise they prove unwholesome.

	Time for Cooking.
Beef, five pound piece	1 hr. 30 m;
Beef, ten pound piece	2 " 30 "
Capon, a large one	1 " 00 "
Chickens	0 " 45 "
Duck	0 " 55 "
Goose, a large one	2 " 00 "
Goose, a small one	1 " 30 "

	Time for Cooking.
Mutton, five pound piece	1 " 00 "
Mutton, a large piece	2 " 00 "
Lamb, a large piece	1 " 30 "
Partridge, Pheasant, and Prairie Hen	30 to 45 m.
Pigeon	0 hrs. 30 m.
Pork, four pound piece	2 " 30 "
Turkey, a large one	1 to 2 hrs.
Veal, a large piece	2 hrs. 00 m.
Venison, a large piece	1 " 00 "

Of course, much depends upon the stove and heat.

Soups.—These are fluid nutrients which are extracted from vegetable, animal and fish. Hence vegetable soup, or animal broth, or fish soup. At times they are mixed, *i. e.*, (the vegetable and animal products) so as to get the beneficial aliments of both; both being required. And when delicately flavored, they are called "the vestibule of the banquet."

Hippocrates said "these extracts were invented because they suited the invalids and sick." But science has made them even suitable to people in health, as they can be made so nutritious as to take the place of solid food. The *Pot-au-feu* of the French peasant, and the rich soup of the French soldier are the chief rations on which they subsist.

All cooks are also convinced of the utility of strong soup.

It is an economical ingredient of diet: in fact it is made of many remnants which otherwise could not be used. All the waste fragments are thus utilized and made productive of nutrition.

Liebig says: "The attractive substances of flesh when added to food, do duty as true nutritive materials in the place of those substances which are otherwise produced from albumen." They cannot, perhaps, supply the place of albumen and fibrin in the nourishment of tissues, but they can replace the secondary products of albumen, which are concerned in the development of force; and as they are at once absorbed in the circulation, requiring no efforts of digestion, they not only create force, but they also economise it. They are, therefore, among the most valuable constituents of food.

What are these constituents? We know of the phosphates existing in the bones, of the gelatine which indeed is largely extracted by boiling, and the carbonates. These constituents are unquestionably great elements in the composition of the blood, except gelatine, which is a tissue-making element.

The most nutritious of all soups is obtained from cut meats, soaked for an hour or so in an equal weight of cold water, and gradually raised to the boiling point. After simmering for about a quarter of an hour, it should be well pressed and strained from the insoluble muscular fibre. In this way it retains the whole of the soluble constituents of meat, amounting to about five per cent. of the meat used; so that a pint of this liquor from a pound of meat contains just four-fifths of an ounce of meat extract.

But if the boiling is continued for a long time, a little gelatine is dissolved, but the strength of the soup is not materially increased.

Coarser, but still good and highly nutritious soup can be made from lean meat and bone; as the leg or shin of beef.

The meat should be sliced in small pieces and the bone well crushed; then put the whole in cold water with salt added. It should be heated gradually to the boiling point. After taking off all the scum, vegetables should be added and it should gently simmer five or six hours.

After standing a little time to settle, it should be carefully poured off and strained; and when cold, the cake of fat which forms upon the surface should be removed. In this manner about four or five quarts of strong soup may be made from a shin of beef, weighing six or seven pounds.

This kind of liquor contains 600 grains of solid matter to the pint, and of this 39 are saline.

Chicken-Soup.—Roast or bake an old chicken until it turns color, then put it in a soup-kettle with three pints of water and put on a slow fire; remove the scum, add a small onion, some spinach or lettuce, and salt; let it simmer for about three hours. Take out the chicken and the vegetables, skin off the fat, strain and use. This broth is excellent for dyspeptics, and easy of digestion. The chicken is served in a salad.

Veal-Soup.—Procure two pounds of lean veal. Put the meat in a soup-kettle with two quarts of cold water and a little salt; set it on a good fire, and skin off the scum as soon as it gathers on the surface. When skimmed add a head of lettuce and celery with a little onion; simmer it for about three hours: strain and use. This, as well as chicken broth, is excellent for convalescents. It may be made richer by adding a little beef.

Vegetable Broth.—Scrape clean and slice three carrots and three turnips, some celery and a little onion and parsley; fry the whole with a little butter till it turns rather yellow; stir and fry the whole about six minutes.

When fried, add garlic, salt, pepper, two cloves and a little nutmeg grated. Cover it with about three quarts of water.

Keep it on a slow fire, take off the scum carefully, and then simmer it for about three hours; strain and use. We may add a few beans or rice, and even peas.

Bisque of Lobster.—These fish soups are exceedingly nutritious, and agree with people that are nervous, exhausted and have lost digestive force. In acute diseases, in typhoid fevers, in all kinds of malarious fever where adynæmia and inanition are threatening the very foundation of the organism, these elements of nutrition are preferable to animal food. They impart the phosphates of sodium and lime and phosphoric acid. They are nitrogenous and contain little fat, no starch and no sugar; one part of salts, although some fish have, like salmon, 5–5 of fat. The statistics show that the white variety of fish give eighteen of nitrogen and seventy-eight of water. Saline and fatty materials 4. 0. per cent. It is indeed highly nutritious, and by the aid of culinary science, can be made in soup *consommé*, supplying the elements of force without an oppressive load, thus requiring little digestive force.

In these soups often times it is advisable to add some of the shell well powdered with the soft part; this is found to add a savor and render it more active upon the blood through its alkalies and phosphates.

The *Homeopathic* physicians speak highly of sepia as a medicine which promotes an activity in the portal circulation and lymphatics, particularly upon nervous anæmic women. It acts upon the absorbents and secretions, causing irritability of the mucous membranes, constipation and ovarian plethora or excitability. No doubt that sepia stimulates the organs of generation. The virtue of the drug lies in its phosphate of lime and magnesia. These may have traces of silicon, chloride of sodium, etc.; and these constituents are well-known to exist in all shell-fish. The consommé of fish is preferable for invalids.

Bisque of Lobster.—This famous dish is made by boiling one or several lobsters; after they are cooked remove the meat from the claws and keep the flesh of the claws and tail for a salad.

The head, stomach, and black vein are thrown away, but the rest is kept and pounded together in a mortar with some shell.

All small claws, shell, green, white, or yellow matter, are pounded together.

Then put a tablespoonful of butter in a sauce-pan, put it on the fire, and when the butter is melted put in the contents of the mortar; stir it with a wooden spoon for about ten minutes, then add one pint of warm broth (or the water in which the lobster was first boiled), stir it about twenty minutes, and strain. Put the liquor back on the fire, add about four ounces of toasted bread, boil it five minutes and mash it through a colander. Put the liquid on the fire once more, add one quart of broth or the water in which the lobster was boiled, boil it gently for ten minutes and turn it into a soup-dish. While it is boiling, pulverize a piece of the coral (colored shell), mix it with a little butter and press it through a fine sieve and put it in the soup-dish with crusty pieces of bread.

When there is no coral in the lobster, mash up a hard boiled egg with butter in its place. With the addition of an egg and a little butter, the beef broth can be dispensed with, although the soup is not so rich, but is more fit for convalescents.

Clam Soup.—This is a very delicious and nutritious liquor. Boil the clams in water half an hour. Take them out and use the flesh as follows: Chop up the clams fine, put them in a sauce-pan with butter, salt, and pepper, and let them boil for half an hour, adding broth so as to make a rich gravy.

Then take the water which was left, put it (pot-au-feu) over the fire in a kettle, put rice in it as soon as it boils, and cook the rice to the proper softness, then add your clam-broth mashed through a colander. It is a savory, pleasant and nutritious soup. But to improve its nutrition we may add half beef broth and half its own water.

Julienne Soup.—Scrape two carrots and two turnips and cut them in pieces; put them in a sauce-pan with about two ounces of butter, three tablespoonsful of cabbage chopped fine, and half an onion also cut up; set this on the fire and stir till about half-fried. Add broth to make it as you wish—thin or thick. Boil gently till done, salt enough and pepper, skim off the fat and serve.

To this we can add two ounces of boiled rice after having added the broth.

Julienne aux Croutons.—Put some croutons in the soup dish, and when the julienne is done, pour it over them and serve. Remember to cover the soup for five minutes so that the croutons may become tender and thoroughly steamed through. We may add barley or rice instead, or croutons, as it pleases the taste.

Jardinière Soup.—It is like the julienne soup, to which is added the top or eatable part of a few asparagus, six turnips, red radishes, and two or three spoonsful of green peas. These are fried in butter and added to the boiling soup.

SOUPS FOR THE SICK AND CONVALESCENTS.

Consommé au Lait.—Milk may be used instead of broth when delicate digestion, the age and constitution of the patient, or the idiosyncrasis of the disease demand it. Where the system requires a small amount of nutrition and repair, merely sufficient to keep up equilibrium, this preparation is well indicated.

In acute diseases with plethora, like gout, rheumatism, scarlet fever, pneumonia, dysentery, gastric complications or bilio-enterio, troubles where the chylification is difficult; in children of tender age, this preparation is particularly indicated. In women after childbirth and dyspeptics generally; after surgical operations where a great quietude of circulation and of nervous action is required, it is useful to prevent any undue excitement. This is a good liquor to keep the patient upon for several days.

With milk, use a little salt and sugar; it can be thickened with arrowroot, corn-starch, and bread. Dry some slices of bread, either stale or fresh, in the oven, place them in the soup dish, pour boiling broth over them or milk, cover the dish and serve.

Panade or Bread.—Take some stale bread, grate it fine, and then thicken with it a good generous chicken broth. Stir the bread for twenty minutes in the broth, add a little butter, and let it boil for half an hour, until the proper consistency is obtained. We often add two yolks of eggs, beaten with two tablespoonsful of cream; an excellent soup for infants. It is a soup of considerable reputation in Italy for its nutrition and digestibility and simplicity, yet containing all the constituents necessary to an invalid or a child.

Sago Soup.—Sago must be boiled gently about an hour, but it is prepared just like arrowroot.

Tapioca.—Is prepared like arrowroot, and boiled about forty-five minutes. To these we may add more strength by having some peas, beans, and lentils boiled in a little water, butter, salt and pepper; then mash them through a colander into the soup.

Purée Soup of Lentils or Split Peas.—The proportions vary according to taste; the more peas that are used with a certain quantity of broth, the thicker the potage will be, and vice-versa.

Soak one pint of peas in cold water over night and drain; put them in a sauce-pan with a few slices of carrots, some turnips, with a little onion and salt. Cover the vegetables with cold water, and boil them till done. Drain and then mash them through a colander. Return the liquid on the fire with sufficient broth to make the soup thick or thin, and season it with salt or pepper. Boil the soup for ten minutes, stirring in the meantime. Turn it into the soup dish, over croutons, and serve warm.

Purée.—These are made of nitrogenous vegetables; they are boiled first in water, if dry, and then mashed through a colander into the soup to proper thickness.

These delicate fluid foods, called soups, are the very best nutrients for the sick; from the variety given a selection is possible for a very large number of cases and variety of diseases.

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